STATUTORY ENQUIRY—1926

STEEL INDUSTRY

VOLUME I

Report of the Indian Tariff Board regarding the continuance of Protection to the Steel Industry

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CENTRAL PUBLICATION BRANCH
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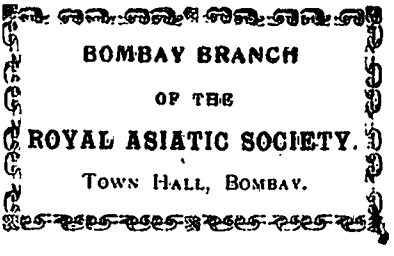

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Part I.—Rolled and Fabricated Steel.

CHAPTER I.

Introductory.

The first enquiry held by the Indian Tariff Board into the circumstances of the Steel Industry in India was followed by the passing of the Steel Industry (Protection) Act in June, 1924, and resulted in the grant of protection to the industry by means of a scale of duties imposed upon the imports of various forms of rolled and fabricated steel and by the provision of bounties upon the manufacture of steel rails and railway wagons. A rapid change in conditions, however, very quickly rendered the protection given ineffective and after further enquiries conducted in 1924 and 1925, it was augmented by the granting of bounties upon the ingot production of the Tata Iron and Steel Company. The Act referred to above limited the operation of these protective measures to a period ending on the 31st March, 1927, and provided in section 6 that an enquiry should be held before that date as to the extent to which the protection accorded to the industry should be continued.

2. Consequently the Government of India ordered the re-examination of the position by the issue on the 3rd April, 1926, of the resolution printed below:—

The Government Resolution.

"The attention of the Tariff Board is drawn to the fact that the Steel Industry (Protection) Act, 1924, will expire on the 31st of March, 1927, and it is requested to re-examine the measure of protection afforded to the various articles covered by the Act and by Act VIII of 1926. It will report in respect of each class of article whether it is still necessary to continue protection, and if so, whether the measure of protection now given should be increased or diminished or whether the form of the protection given should be altered. In making its recommendations, the Tariff Board will take all relevant considerations into account, including that stated in part (*b*) of the Resolution adopted by the Legislative Assembly on the 16th February, 1923, and if it thinks that in any case the assistance required can most suitably take the form of bounties, the source from which the money for the bounties can be obtained should be discussed. In dealing with the Tinplate Industry the Board will bear in mind its own observations in paragraph 31 of Chapter IV of the second portion of its first Report. The Board will also be at liberty to examine the claims for protection of industries making steel products which do not come within the scope of the present Act and to report whether, having regard to the principles laid down in paragraph 97 of the Report of the Indian Fiscal Commission, such claims should be admitted.

(2) Firms and persons interested in the Steel Industry or industries dependent on the use of steel, who desire that their views should be considered by the Tariff Board, should address their representations to the Secretary to the Board.

(3) The Government of India are specially anxious that the Tariff Board's report should be submitted not later than 15th October, 1926."

The Board's Communiqué.

3. Following the issue of this resolution, the Board published on the 16th April, 1926, the communiqué reproduced below, outlining the scope of the enquiry to be held, enumerating the steel articles with which it would be concerned, and inviting the opinions of the firms or persons interested in the enquiry:—

"In the Resolution of the Government of India in the Commerce Department, No. 260-T. (64), dated the 3rd April, 1926, the attention of the Tariff Board was drawn to the fact that section 6 of the Steel Industry (Protection) Act, 1924, provides that, before the 31st March, 1927, an enquiry shall be made as to the extent, if any, to which it is necessary to continue the protection of the Steel Industry and as to the duties and bounties which are necessary for the purpose of conferring such protection.

(2) The Board will proceed to examine this question. Persons or firms interested in the manufacture of the articles enumerated below who desire that the protection granted by the Act should be continued after 31st March, 1927, are requested to submit representations stating—

(1) the grounds on which they consider the continuance of protection necessary in respect of the articles in which they are interested;

(2) whether they consider that the measure of protection now given should be increased or diminished;

(3) whether any protection which may be found necessary should be given by means of protective duties or bounties.

The articles fall under the following heads:—

Rolled steel (including beams, angles, channels, plates, bars and rods, sheets black and galvanized, rails and fish-plates).

Tinplates.

Wire and Wire Nails.

Fabricated steel.

Railway wagons and underframes.

(3) The general question of the fitness for protection of an industry making steel products, the claims of which to protection have already been admitted, will not be reopened. No further examination of this point will therefore be made, except to

the extent to which it has been specifically reserved for further investigation by the Government of India or by the Board, *e.g.*, in the case of the Tinplate Industry.

(4) The scope of the present enquiry is not necessarily limited to the articles enumerated in paragraph 2 and the Board are at liberty to examine any claims which may be put forward for the protection of industries making steel products which do not come within the scope of the present Acts and to report whether, having regard to the principles laid down in paragraph 97 of the Report of the Indian Fiscal Commission, such claims should be admitted. Any persons or firms interested in such industries who desire to claim protection for them are requested to submit to the Tariff Board a full statement of the grounds on which they do so. Their representations should, in addition to the particulars specified in paragraph 1, state clearly whether, and, if so, to what extent, the industries are considered to fulfil the conditions laid down by the Fiscal Commission in paragraph 97 of their Report.

(5) All applications must be addressed to the Secretary and reach the office of the Board at No. 1, Council House Street, Calcutta, not later than the 15th May. After their receipt, the Board will, if necessary, issue questionnaires. The applications, the questionnaires and the replies thereto will then be printed and published, and the written representations of those who wish to support or oppose the continuance or grant of protection will be invited. The dates for the oral examination of witnesses who wish to be orally examined will be subsequently fixed."

Articles for the manufacture of which continuance of protection is claimed.

4. The Resolution instructs the Board to investigate the continuance of protection to the Steel industry, and it specifically directs that the case of the steel articles covered by the Steel Industry (Protection) Act and by Act VIII of 1926 should be examined. These articles, as is shown in the communiqué dated the 16th April, fall under the following heads:—

1. Rolled Steel.
2. Tinplates.
3. Wire and wire nails.
4. Fabricated steel.
5. Railway wagons and underframes.

This report deals with rolled steel, fabricated steel and the manufacture of tinplate. The representation of the Indian Steel Wire Products, Limited,—the main applicant for the grant of protection to the manufacture of wire, etc.—was received too late to permit of the examination into this subject being conducted concurrently with the main enquiry and consideration of this industry has therefore been postponed. As regards railway wagons and underframes, the future requirements of the Indian railways are

still under the consideration of Government. The cost of production of these articles is necessarily dependent on the output and in the absence of definite information of the probable future demand it has been impossible for the Board to frame any recommendations.

Other articles for the manufacture of which protection is claimed.

5. Further, the Government Resolution permits the Board to examine the claims for protection of industries making steel products which do not come within the scope of the present Act and to report whether, having regard to the principles laid down in paragraph 97 of the Report of the Indian Fiscal Commission, such claims should be admitted. We have received applications in respect of locomotives, wagon forgings, steel castings, and nuts and bolts. The first two products are closely connected with the manufacture of wagons and underframes, and it is not possible to make proposals in regard to them until we receive more definite information as to the future requirements of the railways in regard to wagons. The evidence received in regard to locomotives is not yet complete while the applications in regard to nuts and bolts can most conveniently be considered at the same time as the application for the grant of protection to the manufacture of steel wire.

The Board's procedure.

6. In response to the Board's communiqué representations were received from the Tata Iron and Steel Company, the chief applicant for protection to the Steel Industry, and from other firms and associations interested in the enquiry. Questionnaires were then issued concerning—

(*a*) Rails and fishplates.

(*b*) Steel articles and materials other than rails and fishplates.

(*c*) Railway wagons.

(*d*) Locomotives.

(*e*) Steel castings and spring steel.

A large number of replies were received and these together with the representations and a number of miscellaneous letters received from various sources were published in book form on the 14th July, 1926, under a further Press communiqué which invited the written opinions of those persons or firms who might wish to support or oppose the grant or continuance of protection. This communiqué ran as follows:—

> "In accordance with paragraph 5 of the Press Communiqué issued by the Indian Tariff Board on the 10th April, 1926, in which it was stated that the applications received by the Board from persons or firms in connection with the Statutory Enquiry regarding the grant or continuance of protection to the Steel Industry in India after 31st March, 1927, together with the Board's questionnaires and the replies thereto would be printed and published, the Board now announces

that the applications, etc., have been printed and can be obtained from the Manager, Government of India Central Publication Branch, Calcutta, or all Provincial Government Book Depôts and authorized Booksellers, price annas 8, and that the written representations of those who wish to support or oppose the grant or continuance of protection are now invited. Such representations (with 6 spare copies) should be addressed to the Secretary and reach the office of the Board at No. 1, Council House Street, Calcutta, not later than the 24th July, 1926, together with an intimation whether the sender desires to be orally examined by the Board."

It evoked but little response. The only communications received were from

1. Mr. R. Sitaraman, Calcutta.
2. The Bombay Iron Merchants' Association.
3. Mr. G. B. Trivedi, Bombay.
4. The Indian Chamber of Commerce, Calcutta.
5. Certain Iron Merchants of Calcutta.

Appendices III to VII show the programme followed by the Board during the course of the enquiry. The Tata Iron and Steel works at Jamshedpur and a considerable number of other works connected with the manufacture of steel articles were visited at various dates, while the recording of oral evidence occupied thirty-nine days.

Arrangement of the report.

7. This report is divided into three parts; Part I dealing with Board during the original enquiry into the Indian Steel Industry and also during the and Part III containing annexures and appendices.

Acknowledgments.

8. Our technical adviser, Mr. Mather, was associated with the Board during the original enquiry into the Indian Steel Industry and also during the first supplementary enquiry. Moreover, in his capacity as Government Metallurgical Inspector at Jamshedpur he had special opportunities of acquainting himself with the difficulties with which the Indian Steel Industry has had to contend. He was therefore exceptionally well qualified to advise on the technical aspect of the enquiry and his experience of the Steel industry both in Europe and in India has been of the greatest assistance to us. By the courtesy of His Majesty's War Office his services were placed at the disposal of the Board at an early stage of the enquiry and we have had the benefit of his co-operation throughout our investigation. It is obvious that in estimating both the present position of the industry and its future development a full appreciation of the technical aspects of the various processes of steel manufacture is essential. Without Mr. Mather's technical advice

and his skill in marshalling statistics connected with the Steel industry we should have found it difficult to carry through our investigations with the same degree of accuracy. His services were not confined to assistance in the investigation of the technical aspects of the problems before us. In the examination of the figures upon which our conclusions are based, we have derived great help from his careful scrutiny and throughout the preparation and discussion of the draft report and of the draft Tariff Schedule* in which our proposals are embodied we have had the benefit of his judgment and criticism. Though the entire responsibility for our proposals must rest with the Board, we are sure that the report has gained very considerably both in accuracy of statement and in consistency of treatment by the care and thoroughness with which he has subjected our proposals to examination.

A difficult and prolonged enquiry of this nature must necessarily throw a heavy burden of work on the Secretary and his staff. We desire to acknowledge the ability and efficiency which our Secretary Mr. Clee has displayed in the performance of his duties, and the ready co-operation which we have received from him at every stage of the enquiry. Our thanks are also due to the reporting and clerical staff for their consistent good work throughout the enquiry.

We wish to express our sense of obligation to those associations, firms and individuals who have furnished written statements of their views or tendered evidence before us. We are conscious that the supplementary information which we have called for both from the Tata Iron and Steel Company and from the various State and Company railways, has involved the expenditure of much time and labour on their part and we desire to acknowledge the courtesy with which our requests in this respect have invariably been met.

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* See Annexure B.

CHAPTER II.

Results of the present scheme of protection.

Recommendations in Tariff Board's report of February 1924.

9. In our first report we based our recommendations on the principle that the need for protection is measured by the difference between two prices, *viz.*:—

(*a*) The price at which steel is likely to be imported into India from abroad.

(*b*) The price at which the Indian manufacturer can sell at a reasonable profit.

The average price at which the Indian manufacturer would obtain a fair return on his capital was estimated at Rs. 180 a ton; of this sum Rs. 122·63 per ton represented the works cost of steel manufacture and the balance, Rs. 57·37 per ton, overhead charges and manufacturer's profit. On an examination of the probable course of selling prices it was recommended that the following specific duties should be imposed:—

	Rs. per ton.
Steel—	
Structural shapes, *i.e.*, beams, angles, channels, etc.	30
Ship, tank and bridge plates	30
Common merchant bars and rods	40
Heavy and medium rails and fishplates	14
Light rails and fishplates (under 30 lbs.)	40
Black sheets	30
Galvanized sheets, plain or corrugated	45
Wrought iron—	
Angles, channels and tees	20
Common bars	35

Besides these duties, the grant of bounties on the manufacture of medium and heavy rails and fishplates was also recommended according to the following scale:—

	Rs. per ton.
1924-25	32
1925-26	26
1926-27	20

The period during which the measure of protection proposed was to remain effective was limited to three years, because of the uncertainty of the course of future prices, and also of the probability of a decided fall in the cost of production. We suggested that a fresh enquiry would be necessary in 1926-27 and that, in the meantime, if the price of imported steel fell so as to make

the duties no longer adequate, supplementary or off-setting duties should be imposed, and that the Government of India should take powers by legislation to impose such duties. Our proposals were accepted by the Government of India and embodied in the Steel Industry (Protection) Act of 1924.

Recommendations in the Tariff Board's report of October 1924.

10. Meanwhile the continued depression in the Steel industry in European countries as well as the depreciation of the Continental exchanges and the rise in the rupee above the 1*s*. 4*d*. level on which we had based our proposals, resulted in a large decline in the price of imported steel and it became clear that the scheme was not affording adequate protection. A representation to this effect was submitted to the Government of India by the Tata Iron and Steel Company and the request was made that under section 3 (*4*) of the Indian Tariff Act, 1894 (as amended by the Steel Industry (Protection) Act, 1924) further duties should be imposed. This application was referred to the Tariff Board for enquiry in the Resolution of the Government of India in the Commerce Department No. 260-T. (15), dated the 8th October, 1924, and the Board was directed to consider:—

(1) To what extent, if any, and in respect of what articles or class or description of articles, the duty should be increased.

(2) Whether the duty should be increased generally or in respect of such articles when imported from or manufactured in any country or countries specified.

The enquiry was therefore limited to the question of off-setting duties. On the 8th November, 1924, we submitted our report recommending the following enhancements of duty:—

	Original duty.	Proposed duty.
	Rs. per ton.	Rs. per ton.
Steel—		
Structural shapes	30	65
Ship, tank and bridge plates	30	55
Common merchant bars and rods	40	75
Light rails and fishplates	40	75
Black sheets	30	52
Galvanized sheets	45	78
Rails and fishplates—medium and heavy	14	30
Wrought iron—		
Bars	35	65
Structural sections	20	50

After considering our report, the Government of India in their Resolution No. 260-T. (15), dated the 27th November, 1924, accepted our estimate of the amount of additional protection required, but expressed the opinion that, in place of the off-setting

duties proposed, bounties not exceeding Rs. 50 lakhs in the aggregate should be given to the industry for one year from the 1st October, 1924, to the 30th September, 1925. Accordingly, with the sanction of the Legislative Assembly, bounties at the rate of Rs. 20 per ton on 70 per cent. of the weight of the steel ingots produced, subject to a maximum of Rs. 50 lakhs, were paid during this period.

Recommendations in Tariff Board's report of 1925.

11. On the 18th June, 1925, the Board was again directed to consider:—

(1) Whether in view of the conditions of the industry and of the probable level of prices of steel articles, the protection afforded by the Steel Industry (Protection) Act to the manufacture of the articles enumerated therein should be supplemented beyond the 30th September, 1925.

(2) If so, for which of those articles further assistance is required and in what form and for what period it should be given.

In our report dated the 2nd September, 1925, we recommended that further assistance should be given for the period ending the 31st March, 1927, and that in the case of the rolled steel industry it should be given in the form of a bounty at the rate of Rs. 18 per ton on 70 per cent. of the ingot production, subject to a maximum of Rs. 90 lakhs. The Government of India, while accepting the finding that further assistance was required, reduced the rate from Rs. 18 per ton to Rs. 12 per ton and the maximum amount of assistance from Rs. 90 lakhs to Rs. 60 lakhs. The Government of India's proposals were agreed to by the Legislative Assembly on the 15th September, 1925.

Circumstances which made supplementary protection necessary.

12. We do not propose in this Chapter to consider in detail the circumstances which led to the variations in the amount of protection originally accorded to the rolled steel industry. They have been set forth at length in our previous reports and have been fully considered by the Government of India in determining the measure of supplementary protection required. It will be sufficient for the purpose of our review if we briefly indicate the main causes of the decline in steel prices in India. Foremost was the great expansion of steel producing capacity in all countries which occurred during and immediately after the war. Productive capacity far exceeded consumption. Prices fell, and in order to maintain an economic production, many firms found it necessary to endeavour to retain their export market by selling at prices which, even if they covered the works cost, left little or no margin for profit or overhead charges. The position was aggravated by the depreciation of the Continental exchanges which, by intensifying competition, resulted in still lower prices. The Indian market was also affected by the rise in the rupee exchange, which temporarily

decreased the ability of Indian manufacturers to compete with imported steel, while in anticipation of the imposition of a protective tariff very large amounts of steel were imported which later could not be disposed of except at reduced prices.

Increase in production of steel at Jamshedpur.

13. Meanwhile in the Indian industry the operation of the more modern machinery installed at Jamshedpur in the last few years has resulted in considerably increased production and in a lower level of costs. The Tata Iron and Steel Company has thereby been able, with the additional assistance received from Government, to maintain and even improve its position in the face of very severe foreign competition. The construction of that part of the works known as the Greater Extensions was almost completed when we held our first enquiry. The manufacture of steel by the Duplex process commenced in March, 1924, and the new rail mill, the merchant mill and the sheet mill, were brought into operation within the next six months. The production of finished steel increased from 162,282 tons in 1923-24 to 247,982 tons in 1924-25, and to 319,957 tons in 1925-26, while our estimate for 1926-27 is 380,000 tons.

Reduction in works costs.

14. In the same period there has been a large reduction in works costs as is shown by the following table:—

TABLE I.

—	1923-24.	1924-25.	1925-26.	August 1926.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Pig iron	36·28	32·73	28·48	25·21
Steel ingots	71·02	65·1	57·29	51·27
Rail and structural mills .	120·93	111·44	101·53	85·1
Bar mills	132·55	131·32	111·14	105·9
Plates	142·1	145·8	124·3	103·3

An examination of the cost sheets in detail shows a progressive reduction in the cost of finished steel in all the new mills. Progress in the sheet mills, however, has fallen short of anticipation. Whereas during our first enquiry (Statement LXIII)*, the Company estimated that when the Greater Extensions were completed and in operation, the cost of black sheet would be Rs. 149 per ton and of galvanized sheets Rs. 194 per ton, the average for the first five months of 1926-27 was Rs. 170 per ton for black sheets and Rs 282 per ton for corrugated galvanized sheets.

* Page 184, Vol. I of the evidence recorded during the Board's first enquiry into the Steel industry.

Reduction in cost of ingots.

15. Apart from the operation of the new mills, the main factors in the reduction of costs have been the lower price of coal and the improved practice at the coke ovens, blast furnaces and open hearth furnaces. This improved practice accounted for most of the reduction of Rs. 20 per ton in the cost of steel ingots between 1923-24 and August 1926. The drag ovens and Evence-Coppee coke ovens have been closed as obsolete and inefficient, while closer inspection at the collieries has resulted in some improvement in the quality of coking coal. During our first enquiry the maximum output of the five blast furnaces was estimated at 600,000 tons of pig iron. Better results have since been obtained by changes in the proportions of materials used, by blowing more wind, and by using limestone as a flux instead of dolomite. With four furnaces only in operation, 53,000 tons of pig iron have been produced in one month, and it is now estimated that from five furnaces the annual output will be at least 800,000 tons. In the open hearth furnaces the proportion of steel scrap to pig iron has been increased, while the construction of a new calcining plant has made it possible to obtain a purer lime for use as a flux. These improved methods have resulted in greater output and reduced costs.

High costs in the old mills.

16. While the operation of the new mills has enabled the Company to face competition from imported steel with greater success, it has unfortunately not proved possible to effect any improvement in the cost of rolling in the old mills. The total works costs of the products of these mills are as follows:—

TABLE II.

—	1923-24.	1924-25.	1925-26.	August 1926.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Old rail and structural mill .	120·93	110·30	112·99	109
Old bar mills	132·55	123·27	125·19	125

Steel ingots are now produced at a cost of Rs. 20 per ton less than in 1923-24: it will thus be seen that excluding the cost of material, the cost of rolling finished steel at the old mills is substantially higher than in 1923-24, and it is clear that their continuance in operation must in future prove a source of weakness to the Company.

Allegation that protection has been insufficient.

17. In its application for the continuance of protection the Tata Iron and Steel Company has stated that the assistance afforded to the industry has fallen short of the amount intended by Government and the Legislature by about one crore of rupees. The Company has explained that it does not desire to make any

criticism or base any claim on this account. But it appears to us important that, in a survey of the financial results of the period under review, a statement which alleges so serious a failure of the scheme of protection should be carefully examined. We do not propose to discuss the question of Government's intention as regards the scheme of protection, or to consider whether Government contemplated any definite amount as a reasonable profit over a period of three years. But, inasmuch as the Company's argument is based throughout on the estimate in our first report of the profit considered reasonable for the Steel industry, we consider that a detailed examination of the figures is desirable. We propose to confine our attention to the recommendations contained in our first report since all subsequent enquiries were supplementary thereto.

Amount of protection as contemplated in the first report.

18. In the course of our first enquiry, we found that Rs. 180 per ton represented a fair selling price for the Indian manufacturer of rolled steel. Of this sum Rs. 57·37 per ton constituted the overhead charges and manufacturer's profit while the balance (Rs. 122·63) was on account of works costs. It is, therefore, claimed that on our proposals, the fair surplus over works costs should be as follows:—

TABLE III.

	Output.	Surplus over works costs.	Total surplus over works costs.
	Tons.	Rs. per ton.	Rs. lakhs.
1924-25	247,982	57·37	142·26
1925-26	319,957	57·37	183·58
1926-27	360,000*	57·37	206·52
TOTAL	...	...	532·36

The surplus shown by the Company for 1924-25 and 1925-26 together with the estimated surplus for 1926-27 (Supplementary Statement No. 6) amounts to Rs. 418·88 lakhs. On these figures it would appear that the actual protection received fell short of our recommendation by Rs. 113·48 lakhs.

The Company's estimate not accepted.

19. The matter is, however, not so simple as this. The protective duties came into force only from the middle of June, 1924, though the rail bounties were paid from the 1st April of that

* As estimated by the Tata Iron and Steel Company.

year. Thus, excluding rails, about one-sixth* of the finished steel made in 1924-25 did not receive the benefit of the protective scheme. The output of steel in 1924-25 with which we are concerned, was, therefore, about 225,800 tons. In 1925-26, the total production amounted to 319,957 tons. For 1926-27 the Company estimates an outturn of 360,000 tons. This estimate, however, was framed early in the year, and the figures which we have received for the later months indicate that a higher level of production will be attained. We have accordingly raised the Company's estimate to 380,000 tons. The surplus on the manufacture of steel during the first protective period calculated at Rs. 57·37 per ton should, therefore, be as follows:—

TABLE IV.

	Output.	Surplus over works costs.	Total surplus over works costs.
	Tons.	Rs. per ton.	Rs. lakhs.
1924-25	225,800	57·37	129·54
1925-26	319,957	57·37	183·58
1926-27	380,000	57·37	218·01
TOTAL .	...	...	531·13

Estimate of surplus.

20. The Company estimates that the surplus in the three years 1924-25 to 1926-27 will be Rs. 418·88 lakhs. According to our estimate, however, the figures are somewhat different. The scheme of protection was in force for only nine and a half months in 1924-25 and the production during this period was 225,800 tons against the figure of 247,982 tons taken in the Company's estimate. A consequential reduction of Rs. 6·28 lakhs† has to be made in the surplus for that year (Rs. 114·48 lakhs), leaving the total at Rs. 108·2 lakhs. The surplus realized in 1925-26 was Rs. 137·11 lakhs. The Company estimates that the surplus in 1926-27 will be Rs. 167·2 lakhs. But this estimate framed at an early stage of our enquiry has taken account neither of the probable increase in the output of steel nor of the reduction in works costs as indicated in the August figures which, we consider, afford a more reliable indication of the probable average costs of the year than the earlier figures taken by the Company. We also think that the average prices at which the Company has effected sales in the first five months of 1926-27 are a safer basis on which to calculate the year's probable

* Allowance is made for the lower production in the hot weather months.

† This reduction is calculated only on the output of steel other than rails.

surplus than the Company's estimate of prices. Our estimates of the surplus for the year 1926-27 are shown in the following table:—

TABLE V.

—	Works cost.	Average selling price.	Margin	Rail bounty.	Ingot bounty.	Total.	Production.	Total surplus.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Tons	Rs. lakhs.
Heavy rails .	79·58	120	40·42	20	12·61	73·03	144,000	105·16
Heavy structurals	108·78	134	25·22	.	12·61	37·83	36,000	13·62
Bar mill products	105·9	138	32·1	1·09	12·61	45·8	91,200	41·76
Plates . .	103·35	140	36·65	...	12·61	49·26	19,800	9·75
Black sheets .	164·12	159	−5·12	...	12·61	7·49	6,000	·45
Galvanized sheets	258·5	280	22 5	.	12·61	35·11	12,000	4·21
Tinbar .	71·4	83	11·6	...	...	11·6	51,000	5·92
20,000 tons additional production.*	100·9	135·2	34·3	...	12·61	46·9	20,000	9·38
TOTAL .	..	..	...	...	...	...	380,000	190·25

Thus the total surplus for the protective period will probably be as follows:—

	Surplus Rs. lakhs.
1924-25	108·20
1925-26	137·11
1926-27	190·25
TOTAL .	435·56

We have estimated the surplus which might reasonably have been expected on our first recommendations at Rs. 531·13 lakhs and it would appear therefore that the surplus actually received will fall short of this amount by Rs. 95·57 lakhs.

Adjustment on account of tinbar.

21. This may be considered a substantial departure from our expectations and is an apparent justification of the Company's contention that it has received approximately a crore less than the assistance originally contemplated. But it must be remembered that protection was never recommended on the manufacture of tinbar. When our first enquiry was held, the Steel Company was under an agreement to sell its tinbar to the Tinplate Company

* Tinbar is not taken into account in the calculation of the surplus on this additional production.

of India at a price which would not be affected by the imposition of duties. The matter is discussed in paragraph 39 on page 127 of our First Report regarding the grant of protection to the Steel industry where we remarked "nothing short of a bounty from general revenues in the case of sheet bars would really remedy the situation that has arisen, but we do not consider that this is a case in which a mistake made by the Company can be rectified at the expense of the taxpayer." It is therefore reasonable, in any consideration of the effectiveness of the duties and bounties, to exclude tinbar from the calculation of both the expected surplus and the realised surplus. The total production of tinbar between the 13th June, 1924, and the 31st March, 1927, will probably be about 116,000 tons. The omission of this amount from the calculations reduces the estimated surplus for the period by Rs. 66·55 lakhs and the probable realized surplus by Rs. 17·97 lakhs. The apparent discrepancy of Rs. 95·57 lakhs is thus reduced by Rs. 48·58 lakhs to Rs. 46·99 lakhs.

Adjustment on account of surplus on pig iron.

22. Nor can we omit from our consideration the fact that, although the production of steel has fallen short of that on which we based our calculations of the surplus to be earned on steel, the production of pig iron available for sale has been correspondingly higher. Whereas we estimated* that the annual surplus of pig iron available for sale would be 40,000 tons, the amount in 1924-25 and 1925-26, together with the estimated amount in 1926-27, totals nearly 450,000 tons. Excluding production for the first two and a half months of 1924-25, when the scheme of protection was not in force, our original estimate would give an outturn of about 113,300 tons for the period of protection against a probable actual figure of 411,000 tons. Taking an average profit of Rs. 20 per ton, which was the figure assumed in our First Report, the profit which might reasonably have been expected during the period of protection would be Rs. 22·66 lakhs, to which Rs. 9·38 lakhs must be added for overhead charges. The actual surplus for the same period according to our present estimate is about Rs. 63 lakhs.

Summary of results.

23. We may now summarize our conclusions in tabular form.

TABLE VI.

——	Production.	Anticipated surplus.	Realized surplus.	Difference.
	Tons.	Rs. lakhs.	Rs. lakhs.	Rs. lakhs.
All steel . . .	925,757	531·13	435·56	95·57 deficiency.
Tinbar . . .	116,000	66·55	17·97	48·58 ,,
Protected steel . .	809,757	464·58	417·59	46·99 ,,
Pig iron . . .	411,000	32	63	31 excess
Pig iron and protected steel . . .	..	496·58	480·59	16 deficiency.

*Paragraph 79, page 45 of our first report.

Adequacy of protection granted.

24. It appears, therefore, that the actual surplus during the period of protection will fall short of the amount which might reasonably have been expected (Rs. 496·58 lakhs) by Rs. 16 lakhs only, and that, on the whole, the position of the Company at the end of the period of protection will not differ materially from that originally contemplated by the Board. It is true that the Company has been as yet unable to pay any substantial dividends on its share capital, but the scheme was so framed as to provide for the payment of full dividends only when the production of finished steel approached 400,000 tons, which was not expected to occur until 1926-27. It must also be remembered that the last three years have witnessed the greatest depression which has been experienced in the Steel industry for many years, and that, even in countries where steel manufacture is an old established industry, few manufacturers have been able to show a profit, while many have incurred heavy losses. In the United States of America, conditions for all industries have been far more favourable than in Europe. But, although in 1925-26 the output of steel ingots exceeded all previous records, profits were on a scale much below that prevailing in other industries. Out of twenty seven companies only fourteen were able to pay a dividend on their ordinary stock and the total profit earned by all companies amounted only to 4·51 per cent.* on the capital invested. When old established companies in Europe with the advantages derived from substantial reserves and with a trained labour force are unable to avoid loss, we do not think that the comparatively newly established industry in India could hope to obtain profits such as might accrue in more normal times. In introducing the Steel Industry (Protection) Act on the 27th May, 1924, the Hon'ble the Commerce Member remarked " The general principle was, of course, clear; it was that the protection afforded should be the minimum required to tide the industry over this transitional period." The Tata Iron and Steel Company has received during the last three years assistance sufficient to enable it to meet the works costs and interest on debenture and loan charges, to pay full dividends on its first preference shares and a partial dividend on its second preference shares and to set aside a substantial sum for depreciation. That the protection actually received by the Company has enabled it to survive a most difficult transitional period not merely without losses but in a state of improved and growing efficiency cannot, we think, be questioned.

Effect of duties on consumer.

25. In spite of the imposition of protective duties, the prices of steel in India never approached the anticipated price of Rs. 180 per ton, and have been for the greater part of the period considerably below those prevailing immediately before the protective scheme came into force. An examination of the import figures for protected steel and of the output figures of Indian steel shows that the consumption in India has increased in the last three years. These

* Iron and Coal Trades Review, June 11th, 1926.

two facts leave no room for doubt that the protective duties have not imposed an undue burden on the consumer.

Summary of conclusions.

26. We are now in a position to summarize our conclusions regarding the working of the scheme of discriminating protection. We find that the Tata Iron and Steel Company has made considerable progress. Improved methods have been introduced in the blast furnace and in the open hearth departments, which, combined with the working of the Greater Extensions, have resulted in more economic production. But progress in the sheet mills has been slow and greater experience has to be acquired before either black or galvanized sheets can be produced at a reasonable cost. On the other hand, the old mills, *viz.*, the old rail and structural mill and the old bar mills can no longer compete with more modern machinery and their continued operation is a source of weakness to the Company. We find also that the difficulties of the Tata Iron and Steel Company have been fully considered, and that, during a period of severe depression in the steel trade, the position of the Company has been carefully safeguarded and the protection so adjusted as to enable the industry to make considerable progress. Finally, the decline in steel prices and the expansion of the market indicate that the protective duties have not proved burdensome, that the trade of the country has not suffered, and that no serious hardship has been caused to the purchaser of steel or to the general public.

CHAPTER III.

Estimate of future works costs.

"Works costs" explained.

27. In estimating the amount of protection required by the Indian Steel industry, the first matter to which we must direct our attention is the question of works costs, by which we mean the cost of the labour employed and of the power and material used in the manufacture of steel, together with the expenditure on the salaries of the supervising staff.

Effect of the working of the Greater Extensions on the works costs.

28. When the first enquiry into the Steel industry was held in 1923-24, it was anticipated that, by the year 1926-27, the effect of the working of the Greater Extensions would have manifested itself to a considerable extent in the works costs of the whole plant. As has already been stated in the previous Chapter, substantial progress has been made in the reduction of the cost of manufacture and the question naturally arises whether it is not possible to accept as the future works costs the actuals of the latest cost sheets which we have received up to the time of the drafting of this report. The effect of the more modern machinery has however not yet been fully realized. The decline in the cost of manufacture still continues. Excluding the economy effected as a result of the fall in the price of coal, which we regard as a temporary factor, the costs for August, 1926, show a fall of Rs. 9·5 a ton as compared with those of 1925-26 and we believe that this fall will continue, though at a somewhat slower pace. From this point of view it is perhaps unfortunate that our enquiry could not be conducted at a later date, when the full effect of the working of the Greater Extensions would have been more apparent. But apart from this, it would still have been necessary to frame an estimate of future works costs differing largely from the latest actuals. We have already indicated that the old mills and plant are now obsolete and that, in consequence, the Steel Company is placed at a considerable disadvantage as compared with its competitors from abroad. It is now proposed to modernize the works by replacing the obsolete portions and adding such additional machinery as is necessary to enable the plant to operate as a well balanced whole, the necessary expenditure being met from the sums set apart for depreciation.

The proposed additions and extensions to the works.

29. The additions which it is proposed to make are fully set forth in Lists A and B attached to the Tata Iron and Steel Company's application to the Tariff Board dated the 7th May, 1926. It will be sufficient for our purpose to refer to the main features of the scheme, and to indicate the deficiencies in the present plant which are to be made good. The Tata Iron and Steel Company's works as they stand at present are not properly inter-related. The

coke ovens cannot turn out sufficient coke for the manufacture of pig iron if all the blast furnaces are in full operation. The steel furnaces cannot absorb all the pig iron which can be made, nor can they produce enough steel to keep the rolling mills fully occupied. It is thus necessary to provide additional coke ovens and steel furnaces in order to enable the blast furnaces and rolling mills to be worked at their full capacity. A fourth battery of Wilputte coke ovens will therefore be erected, and the output of steel ingots will be raised by the installation of a third tilting furnace and by rebuilding and enlarging the four oldest open hearth furnaces. Additional soaking pits and reheating furnaces will also be necessary. To enable the Company to close down the uneconomic portions of the plant, a roughing stand and finishing department must be added to the new 28-inch mill so that the structural sections now rolled on the old mills can in future be rolled on that mill. The present gas producers in the open hearth department will be replaced by new mechanical producers which will ensure greater economy in the consumption of coal. More sheet mills will be installed, and additions will also be made to the power station plant and to various auxiliary departments. The Company also proposes to introduce equipment for economising fuel, to prepare some of the refractory materials required in the works and to instal a benzol recovery plant which should increase the receipts from by-products.

Period covered by Board's estimate.

30. As a result of these alterations and extensions, it is expected that the annual output of finished steel will be increased from a little over 400,000 tons to about 600,000 tons. We consider that this is a highly desirable and indeed necessary development without which we should have found it difficult to foresee a time when the Company might reasonably be expected to dispense with protection. According to the Company's programme, this scheme of development will not be completed until 1931-32 and the full output will not be reached until 1933-34. By that year there should be a considerable decrease in the works costs both on account of the increase in output and of the general economies effected. It is impossible, therefore, to base a scheme of protection on the works costs as shown in the latest cost sheets. It is equally impossible to take the estimated costs for 1933-34 for that purpose, since a scheme of protection so determined would be inadequate in the earlier years and it is therefore necessary to take some intermediate figure as representing the average works costs. But before we can arrive at any such figure, it is necessary to determine the period to be covered by our estimate. If the period is too short, the average works costs will be higher and therefore the amount of protection greater than would otherwise be the case. If it is too long, the amount of protection will be too low in the initial years, and possibly excessive towards the end of the period. We think the most suitable period to adopt is seven years, since by 1933-34 the full output, which is expected from the new scheme of development, should be attained. Further, in paragraphs 21 and 22 of its application to the Tariff Board, the Tata Iron and Steel Com-

pany has stated its belief that by 1933-34 the Steel industry may be able to stand without special protection, and although we do not commit ourselves to agreement with this opinion, it appears unnecessary, in view of the Company's statement, to postpone an enquiry into the industry to any later date. Finally, we think that a scheme of protection based on the average works costs, overhead charges and manufacturer's profit over a seven year period would not result in the grant of inadequate protection in the early years and assistance beyond the needs of the industry towards the end of the period. We have therefore decided to base our estimates throughout on a seven year period.

Assumptions as to coal, labour, etc.

31. No estimate of future costs can be made except on certain assumptions. The two largest items in the cost of manufacturing steel in India are labour and coal. We can make no definite prediction as to the future course of Indian wages and must assume in our estimates that there will be no substantial change. The price of coal has fallen from about Rs. 8 per ton, delivered at Jamshedpur, in 1925-26, to Rs. 7 in the current year. The Company has based its estimates on prices of Rs. 8 per ton in 1927-28 and Rs. 9 per ton in subsequent years. While we do not attempt to forecast the future course of coal prices, we have received no evidence or information to indicate any considerable rise in the immediate future, and we base our estimates on an average price of Rs. 8 per ton delivered at Jamshedpur. Other factors in the costs which may be liable to variation are railway freights, the prices received for by-products, the prices of minerals other than coal, and the cost of miscellaneous stores and supplies. We see no reason to anticipate that all these factors will vary simultaneously in a manner adverse to the Steel Company or that the nett variations would have any appreciable effect on our estimates of the final works costs.

Method of estimating future costs.

32. The Tata Iron and Steel Company has furnished us with estimates of its future costs of production. We find, however, that these estimates have not taken account of all probable savings, as indeed was admitted by the Company's representatives in the course of their examination. It is therefore necessary to consider in detail the economies which can be effected during the protective period. This can be done in two ways; either by estimating the figures of the cost per ton in each department, which is the method adopted by the Tata Iron and Steel Company in maintaining its monthly cost sheets, or by considering the total expenditure under the main heads and framing an estimate of the final sum which, we think, might reasonably be spent under each of these heads during the last year of the seven year period. The latter method has the advantage of indicating clearly the directions in which economies can be effected and we have decided to adopt it. As the monthly cost sheets of the Steel Company do not show the total expenditure under the various heads, it is necessary to take as

our starting point the classified expenditure of the last complete year 1925-26. The total expenditure for this year is then considered under four main heads and the total saving possible under each head during the period of protection is determined. Thus the total expenditure in 1933-34 is obtained, and this figure divided by the estimated output of finished steel gives the works cost per ton in that year. In determining the average works costs over the whole seven year period, we have taken the arithmetic mean between the costs for August, 1926, and our estimate of the costs for 1933-34.* We have considered whether it would be preferable to estimate the probable costs at the end of the current year and base our average on the mean between such costs and our estimate for the final year of the protective period. But on this method both figures between which the average cost for the period would be determined would be estimates only. Our figure for 1933-34 is necessarily an estimate and it appears to us that we should be on firmer ground if we take as our first figure for the period the latest actual costs which are available.

The four heads of expenditure.

33. The four heads referred to in the previous paragraph are—

(*a*) Labour,

(*b*) Miscellaneous stores and supplies,

(*c*) Coal, and

(*d*) Ores and fluxes.

Reductions in the costs per ton are possible under all these heads and will be largely facilitated by the increase in the output of steel and by closing down those parts of the plant which have become obsolete and therefore uneconomic. Further, as regards certain classes of finished steel which the Company has only recently commenced to produce, such as black sheets, galvanized sheets and sleepers, longer experience in manufacture should result in greater economy and better practice.

Closing down of obsolete parts of the plant.

34. Before dealing with the main aspects of the question, we wish to emphasize the importance of closing down at the earliest possible date those parts of the old plant which have admittedly become obsolete and inefficient. These are the old blooming mill, the old 28-inch mill and the old bar mills. According to our calculations, which have not been disputed by the Steel Company, it costs nearly Rs. 20 lakhs a year more—for works costs only—to produce the articles rolled on these mills than it would if it were possible to roll the same products on the new mills. Steam instead of electricity is used as the motive power in the old mills and greater expenditure is thereby incurred. Additional coal is also required for reheating the blooms and billets before they enter the old 28-inch mill and the bar mill, and as considerably more manual labour is required by the old plant the labour charges are correspondingly high.

* In two cases, *viz.*, structural sections and sleepers, the average works costs are determined in a different manner as explained in paragraph 60.

In all these directions the closing of these mills would result in economy. The principal kinds of finished steel manufactured in the old mills are structural sections, certain small bars, light rails and fishplates. The Tata Iron and Steel Company contends that its new mills are not at present in a position to roll these sections, and that if it did not roll them it would lose its business connections with engineering firms and bazar buyers. In these circumstances there is perhaps some justification for the use of these mills until they can be dispensed with by the development of the new mills, and we have thought it necessary, therefore, to make some allowance for the additional expenditure which must be incurred in the initial years of the period.

Output of finished steel.

35. The works costs must largely depend upon the output of steel. In our investigation of the economies which may be reasonably expected in the manufacture of steel, we are concerned with three distinct stages, *viz.*, the year 1925-26, the month of August, 1926, and the final year 1933-34. In 1925-26, the output of finished steel was 320,000 tons and that of surplus pig iron 123,000 tons. In the month of August, 1926, the output of finished steel was 32,300 tons and of surplus pig iron 4,900 tons, this being equivalent to about 387,000 tons of steel and 59,000 tons of surplus pig iron for one year. The Company's original estimate for 1933-34 was 560,000 tons of finished steel. We pointed out that this was an under-estimate and the Company then agreed that our estimate of 600,000 tons might be accepted. We shall accordingly adopt this figure as representing the final output.

Excessive labour.

36. In our first report we remarked " The labour cost per ton of finished steel at Jamshedpur is unquestionably higher than the corresponding cost in western countries. This is due not only to the higher wages paid to the skilled labour imported from abroad, but also to the much larger number of unskilled and semi-skilled labourers employed, so that the total wages per ton come out higher." So far as imported labour is concerned, good progress has been made. The number of covenanted men has been reduced from 229 in September, 1924, when the covenanted staff was at its maximum, to 161 in June, 1926, and the saving on this account may be placed at about Rs. 3 lakhs annually. The Company has consistently followed the policy of replacing European by Indian labour whenever possible. But as regards semi-skilled and in particular unskilled labour, the Company has made little progress in reducing the number to a more reasonable figure. We have thought it desirable, therefore, to deal with the subject of labour costs in some detail.

Comparison with the Indian Iron and Steel Company.

37. The total number of men employed in 1925-26 was 26,290, of whom 16,393 were in the productive and 9,897 in the non-productive departments.* The total expenditure of the Company at Jamshedpur in connection with labour

* See Supplementary Statement No. 69, also Statements 71 to 84.

was nearly Rs. 165 lakhs in 1925-26;* this includes salaries, wages, and bonuses and the accident, leave, provident and contingent funds. We consider the number of men employed to be unduly high and in our estimates we must presume a substantial reduction† Our view is supported by a comparison of the Steel Company's figures for the manufacture of coke and pig iron with the corresponding figures of the Indian Iron and Steel Company which also manufactures these products. The latter company's plant near Asansol consists of two batteries of modern coke ovens and two blast furnaces. The Tata Iron and Steel Company had in operation in 1925-26 one old battery of Koppers and three modern batteries of Wilputte coke ovens and four blast furnaces, two of which are old and two of which are new. At our request the Indian Iron and Steel Company prepared statements on the same lines as those submitted by the Tata Iron and Steel Company. The following table gives the comparative figures:—

TABLE VII.

	Indian Iron and Steel Company.	Tata Iron and Steel Company.
Coke Ovens.		
Production	293,000 tons	694,000 tons.
Direct labour	390 men.	1,776 men.
Indirect labour	401 „	610 „
TOTAL	791 men.	2,386 men.
Tonnage per man	370	291
Wages per head	Rs. 336	Rs. 324
Pig Iron.		
Production	265,000 tons	602,000‡ tons.
Direct labour	373 men.	2,016 men.
Indirect labour	572 „	923 „
TOTAL	945 men.	2,939 men.
Tonnage per man	281	205
Wages per head	Rs. 339	Rs. 403
Grand total of labour—Coal and pig iron	1,736 men.	5,325 men.

* See Supplementary Statement No. 90.

† We learnt at the hearing on the 27th September, 1926, that the management had already issued orders for a reduction of 10 per cent. in the total labour force in the course of the next year.

‡ This figure includes 29,000 tons which is taken as the pig iron equivalent of the ferro-manganese made in the blast furnaces during the year.

It will be observed that, whilst the total number of men employed by the Indian Iron and Steel Company for a production of 265,000 tons of pig iron and of the necessary coke for this quantity is 1,736, the number employed by the Tata Iron and Steel Company for a production of 602,000 tons is 5,325. If the ratio of the total number of employees to the output of pig iron at Jamshedpur were the same as that at Asansol, the number of men required for this work by the Tata Iron and Steel Company would be about 3,940 which is nearly 1,400 less than the number actually employed. Part of the excess is explained by the fact that at Jamshedpur the Koppers ovens and two of the blast furnaces are comparatively old and require more manual labour than the more modern plant at Jamshedpur or that of the Indian Iron and Steel Company. For this reason the employment of some extra labour is inevitable, but not, in our opinion, to the extent shown by the figures.

Addition of "non-productive" labour necessary to complete comparison.

38. The actual situation, however, is more unfavourable to the Tata Iron and Steel Company than is revealed by Table VII. The figures of the Indian Iron and Steel Company are complete and embrace all employees at the works. The figures of the Tata Iron and Steel Company in the above table, on the other hand, are incomplete, in that they do not include any of the men (nearly 10,000) employed in departments which are other than "productive." The work of some of these men is connected with the manufacture of pig iron and coke. There are, for instance, 415 men* in the sulphuric acid and by-product plant at the coke ovens, most of whom should be added to the 5,325 men shown in the table above. Including these men, we think, after a study of the remaining "non-productive" departments, that a total of about 1,500 men should be allocated to coke and pig iron. The results may now be stated as follows:—

TABLE VIII.

	No. of men.
Labour at ovens and furnaces . . .	5,325
Allocation from non-productive departments	1,500
TOTAL .	6,825
Number in proportion to the Indian Iron and Steel Company's figures . .	3,940
Excess .	2,885

* See Supplementary Statement No. 69.

These figures show that the Tata Iron and Steel Company employs in the manufacture of coke and pig iron over 70 per cent. more men than it should by comparison with the Indian Iron and Steel Company. While we realise that, in present circumstances with its present equipment and plant, the Tata Iron and Steel Company cannot be expected to show the same results in labour costs as the Indian Iron and Steel Company, we cannot overlook the fact that a substantial reduction is necessary. We should regard as unsatisfactory any result which fell short of a reduction of about 2,000 men—productive and non-productive—in these departments before the end of the seven year period.

Old Mills.

39. When all the old mills, *viz.*, the blooming, old 28-inch and bar mills, have been shut down there should be a saving of about 2,200 men (Statements 76, 78 and 80). This should be accompanied by a further saving of about 650 men who are employed in the ' non-productive ' departments on work connected with these mills. The total reduction will then amount to 2,850.

General reduction of labour.

40. We are satisfied after carefully examining the number of men employed, that the possible savings in other parts of the works are not as great as at the coke ovens or the blast furnaces and we cannot reasonably expect a much greater reduction than 1,500 men in the remaining departments, which is approximately equivalent to 10 per cent. of the present number. The saving of labour in all departments including ' non-productive ' will thus be as follows:—

	No. of men.
Coke ovens and blast furnaces . . .	2,000
Old mills	2,850
Other departments	1,500
	6,350

The nett result is that the number of men finally necessary for working the existing plant on the present scale of operations should be reduced from 26,290 to not more than 20,000 men.

Increase required for greater output.

41. The development programme involves an increased output of coke, pig iron and steel, and necessarily implies the handling of larger quantities both of raw materials and of finished products. We have considered whether this factor might necessitate some increase in the quantity of labour. On the whole, we think that an increase of about 3,500 men will be an ample allowance for the new units and for the increase of output from the existing units.

Total labour required.

42. We are now in a position to ascertain the total number of men required for the final production of 600,000 tons of finished steel:—

	No. of men.
Employed in 1925-26	26,290
Reduction	6,350
	19,940
Increase for final output . . .	3,500
FINAL TOTAL .	23,440

Expenditure on labour.

43. These figures indicate that, in spite of the large increase in output, the number of men employed in 1933-34 should be about 11 per cent. less than in 1925-26. Since the reduction in numbers must necessarily be made to a large extent in the lower paid classes of labour, it by no means follows that the total expenditure on labour will show a proportionate reduction. We do not think we could safely assume that the total wage bill for the manufacture of steel alone in the final year would be below that of 1925-26. As we have already seen, the inclusive expenditure on labour in 1925-26 was about Rs. 165 lakhs. From this should be deducted the cost of labour (*a*) in the town departments, which are expected to be self-supporting, (*b*) in the production of surplus pig iron and (*c*) on certain new construction works on capital account. A deduction of Rs. 16·6 lakhs has been made on this account, leaving the total cost of labour involved in the manufacture of steel at Jamshedpur in 1925-26 at Rs. 148·4 lakhs. We regard this as sufficient provision for the labour necessary for the production of 600,000 tons of finished steel in 1933-34. We are conscious that on the figures given above an even larger reduction in labour costs might have been proposed, but we think that difficulties might arise in giving effect to any further readjustment of the labour force in a period during which new plant on an extensive scale is to be brought into operation. We have no doubt that the Steel Company so far as is compatible with smooth and efficient working, will take steps to counteract any tendency towards overstaffing the various departments.

Expenditure on stores and supplies.

44. The remainder of the Company's expenditure at Jamshedpur is in respect of materials and falls under the following three heads:—

(*a*) Stores and supplies,
(*b*) Fuel, and
(*c*) Ores, fluxes, and other minerals.

For the purpose of our calculations the inward freights to Jamshedpur are included in the cost of the materials. The gross expenditure on stores and supplies in 1925-26 was Rs. 87·9 lakhs* of which about Rs. 6·7 lakhs may be ascribed to surplus

* See Supplementary Statement No. 90.

pig iron, capital construction, etc. The expenditure under this head on the manufacture of the steel made during the year was thus Rs. 81·2 lakhs. Having regard to (1) the fact that some of these stores appear in the 1925-26 accounts at prices higher than those now ruling, (2) the possible economies in the consumption of some of the stores and (3) the future closing down of the old mills where the consumption of stores is disproportionately large, we consider that the total expenditure in 1933-34 required for the manufacture of steel should not exceed Rs. 124·0 lakhs, which is an all-round increase of over 50 per cent.

Expenditure on coal.

45. The next item which requires consideration is coal. The Company's actual expenditure* in 1925-26 was Rs. 128·1 lakhs, of which Rs. 16·4 lakhs may reasonably be allocated to surplus pig iron and Rs. 111·7 lakhs to finished steel. The Company also spent Rs. 1·3 lakhs on fuel oil in 1925-26; we think that this item may safely be omitted from our estimates for 1933-34. We have impressed upon the Company the necessity of reducing its coal consumption per ton of steel. In an early estimate the Company proposed a reduction from its actual consumption of 4·09 tons in 1925-26 to a future consumption of 3·14 tons per ton of finished steel after allowing for the surplus pig iron. While a consumption of less than 3 tons of coal should ultimately be sufficient, we do not consider that we should be justified in insisting on a lower consumption than the 3·14 tons suggested by the Company within the seven year period. We therefore allow 3·14 tons as the figure to which the Company should bring down its consumption for the production of 600,000 tons of finished steel. The total quantity thus required in 1933-34 would be 1,884,000 tons, and as we have assumed the average price of coal to be Rs. 8 per ton f.o.r. works, the total expenditure under this head will amount to Rs. 150·7 lakhs. As evidence that the Company has begun to reduce its coal consumption, it may be noted here that the consumption in August, 1926, was 3·81 tons per ton of finished steel, which is already less than the average of 1925-26 by 0·28 ton.

Expenditure on ores, fluxes and other minerals.

46. The gross expenditure in 1925-26 on ores, fluxes and miscellaneous minerals (chiefly for furnace linings) was Rs. 62·8 lakhs of which we regard Rs. 10·4 lakhs as due to the production of surplus pig iron, leaving a nett expenditure of Rs. 52·4 lakhs as necessary for the production of the steel in that year. According to our calculation of the quantities necessary per ton of steel in 1933-34, the expenditure on these materials in that year for an output of 600,000 tons of finished steel should not exceed Rs. 92 lakhs.

* Supplementary Statement No. 90 also contains an item of Rs. 3·59 lakhs for coke purchased or taken from stock. We have treated this as taken from stock and have reduced the credits accordingly.

Credits in reduction of gross expenditure.

47. The preceding paragraphs show the actual expenditure on the manufacture of steel in 1925-26 and our estimates for 1933-34. These figures, however, do not represent the true costs of making the steel. The gross expenditure is incurred in the production, not only of finished steel, but also of saleable products which are either incidental to the manufacture of the steel or are produced to meet local requirements. The chief of these are ammonium sulphate, tar, second class rails (which are not included in the Company s production of finished steel) and power sold to other firms at Jamshedpur. The cost of the labour and materials consumed in these products is included in the above expenditure and the receipts from their sale should correspondingly be deducted if we are to arrive at the nett expenditure which represents the true works costs of the steel. An examination of the Company's cost sheets shows also that, during 1925-26, there was an excess production of certain intermediate products (*e.g.*, ingots, blooms and slabs) and a deficient production of others (coke and billets). The works costs of these should be allowed as deductions from or additions to the total expenditure. To obtain the true expenditure on finished steel we must reduce the gross expenditure of 1925-26 by Rs. 37·5 lakhs, which was the value in that year of the by-products and of the nett excess of the intermediate products. We estimate that the corresponding reduction for 1933-34 will be about Rs. 42 lakhs.

Nett average cost and estimated reduction per ton.

48. We can now set out the total costs of 1925-26 and our estimates for 1933-34 in the following form:—

TABLE IX.

	Gross Expenditure.		Incidence per ton.	
	1925-26.	1933-34.	1925-26.	1933-34.
	Rs. lakhs.	Rs. lakhs.	Rs.	Rs.
Labour	148·4	148·4	46·4	24·7
Stores and supplies . .	81·2	124·0	25·3	20·7
Fuel	113·0	150·7	35·3	25·1
Ores, fluxes, etc. . . .	52·4	92·0	16·4	15·3
Total .	395·0	515·1	123·4	85·8
Credits .	37·5	42	11·7	7·0
Nett Total Expenditure . .	357·5	473·1	111·7	78·8
Production of finished steel .	319,960 tons	600,000 tons.		

The estimated reduction is thus Rs. 32·9 per ton which is nearly 30 per cent. of the 1925-26 cost.

Method of applying reduction.

49. In a previous chapter we have indicated the great reduction in the costs of manufacture consequent on the operation of the new mills. Some time is required to obtain the best results from the new plant and it is only recently that the difference in the cost of manufacture has manifested itself in a marked degree. The works costs of August, 1926, are lower than those of 1925-26 by no less than Rs. 13·3 per ton. This includes a reduction in costs of Rs. 3·8 per ton on account of the price of coal which fell to Rs. 7 per ton from Rs. 8 per ton in 1925-26, which figure we have also assumed as the average during the period of protection. We regard the nett reduction of Rs. 9·5 in works costs as satisfactory, but we do not anticipate that the same rate of reduction can be maintained. Comparing the August figures with our estimate for 1933-34 and making allowance for the reduction of Rs. 13·3 per ton already made in the August figures we find that further savings amounting to about Rs. 19 per ton may reasonably be expected to be realized during the next seven years. This is an average for all classes of steel taken together. For some products, which are already being made on a large scale with relatively good efficiency, it will not be possible to obtain a further reduction of Rs. 19 per ton as compared with the August costs, while for others where the output is small and the efficiency still leaves much to be desired, a greater reduction is possible. Each of the main classes of product must, therefore, be considered separately.

Rails.

50. The rail mill was producing rails in August at a rate which was not much below that which we assume for 1933-34, and any further fall in the costs would be due mainly to the effect of the economies in labour and fuel on the cost of the rail ingots. Before 1933-34, however, the medium and heavy structural sections will be rolled on this mill and this extra output should enable the costs above metal to be reduced appreciably. We think, therefore, that it should be possible to bring down the cost of rails, by Rs. 18 per ton, which is nearly the full average amount. The August cost was Rs. 79·6 per ton and the final cost should thus be Rs. 61·6.

Bars.

51. The scope for increase of output is greater in the merchant mill, which produces bars, than in the rail mill and we anticipate a larger drop in the costs above metal. Moreover, the consumption of ingots per ton of finished product is higher for bars than for rails and there is room for greater saving in the cost of metal. Our estimate of the reduction is Rs. 22 per ton, that is from Rs. 99 to Rs. 77.

Tinbar.

52. Tinbar is a less finished product than any of the other kinds of finished steel. Its manufacture requires less ingot steel per ton and involves lower costs above metal than the other products. We should, therefore, not be justified in assuming a greater saving than Rs. 17 per ton, namely, from Rs. 71·4 to Rs. 54·4.

Plates.

53. A greater reduction than the average should be possible in the cost of plates. The consumption of ingots required per ton of plates is high, and involves a large reduction of the cost as the cost of ingots falls. Our estimate of the total reduction is Rs. 23, *viz.*, from Rs. 103·3 to Rs. 80·3.

Black Sheets.

54. The sheet mills have been working for a comparatively short time. Indian labour has not yet been sufficiently trained and, although the number of covenanted employees has been substantially reduced below the average of 1925-26, it is still much higher in proportion to the output than we anticipate for the future. The operations are confined at present to four out of nine existing mills. When the temporary difficulties as regards labour have been overcome and full production is reached on all the nine mills and on the two additional mills provided for in the Company's development programme, we anticipate a special saving of not less than Rs. 23 per ton above the average saving of Rs. 19. The total saving in the cost of sheets would thus be Rs. 42, which would bring down the cost from Rs. 164 to Rs. 122 per ton.

Galvanized Sheet.

55. The cost of galvanized sheet depends mainly on that of black sheet. The greater part of the remaining cost is due to the spelter (zinc) with which the steel is coated. About four-fifths of the galvanized sheet made at Jamshedpur is corrugated, the remainder being sold as plain sheets. In August, 1926, the average works cost of plain and corrugated galvanized sheet was Rs. 263·7 per ton, *i.e.*, nearly Rs. 100 per ton above the cost of black sheet. The Steel Company estimates that in 1933-34 the difference between the costs of black and of corrugated galvanized sheet will be Rs. 85 per ton. This appears to be somewhat greater than necessary, but so long as the revenue duty on the importation of spelter into India is retained we do not think that a smaller difference than Rs. 80 is to be expected. On this basis, and if the works cost of black sheet is Rs. 122 per ton in 1933-34, the cost of corrugated galvanized sheet in that year should be Rs. 202 per ton. But in August the average cost of plain and corrugated sheet together was Rs. 2 per ton less than that of corrugated alone. The average works cost of all galvanized sheet in 1933-34 should thus be Rs. 200 per ton.

Steel Sleepers.

56. No steel sleepers have been made at Jamshedpur during 1926-27 and the production during 1925-26 was so small that we do not regard the cost as a useful guide for the future. The plant is at present incompletely equipped and unsuitably located, but the Company intends to remove the plant to a better site and to complete the equipment when the manufacture of sleepers is undertaken on a large scale. The Company estimates that the final works cost of sleepers will be Rs. 25 above the cost of sheet bar, the sleepers being made from very similar bar rolled in the same mill. The process of manufacture is inexpensive and, in our opinion, a difference of Rs. 16 per ton should

be ample. The works costs of the bar would in 1933-34 be about Rs. 56 per ton; and the cost of the sleepers would consequently be Rs. 72 per ton.

Structural Sections.

57. The heavy and medium sections will in future be rolled in the new 28-inch mill, in which the rails are rolled. The cost of the sections in this mill will probably be about Rs. 2 per ton above that of rails. The light sections will be rolled almost entirely in the merchant mill, and their average cost will probably be about Rs. 3 per ton above the average cost of bars. If the output of heavy and medium sections in 1933-34 is twice that of light sections, which is approximately what may be expected, the average works cost of all structural sections will be Rs. 69·1 per ton.

Fishplates.

58. Fishplates are at present rolled in a steam driven 16-inch mill. It appears that they will continue to be rolled in this mill which will be made more economical by electrification during the next few years. At present the cost per ton of fishplates is higher by Rs. 45 than the cost per ton of the billets from which they are rolled, and we think that this difference should be reduced in future by about Rs. 35. The cost of billets in 1933-34 we estimate at Rs. 55 per ton. The works cost of fishplates should thus become Rs. 90 per ton.

We now tabulate the works costs of August, 1926, and our estimates for 1933-34:—

TABLE X.

Product.	Works costs per ton.		
	Actuals, August, 1926.	Estimates, 1933-34.	Reduction.
	Rs.	Rs.	Rs.
Rails	79·6	61·6	18
Fishplates	116·4	90	26·4
Structural sections	105·3	69·1	36·2
Bars	99	77	22
Plates	103·3	80·3	23
Tinbar	71·4	55·4	16
Black sheets	164	122	42
Galvanized sheet	263·7	200	63·7
Sleepers	...	72	...

Method of determining the average works costs for the period.

59. While we are satisfied that before the end of the period the economies foreshadowed in the earlier paragraphs will result in the reduction of the works costs of the various products to the levels indicated, we do not think that we can make any useful forecast of the extent to which they may be realized in any one particular year. The results will depend very largely upon the rapidity with which the Tata Iron and Steel Company is able to carry out the proposed reductions in the labour and other costs and the measures for effecting fuel economies, and the date on which the old mills are closed down. In the meantime the new plant is already giving lower costs. We believe that the fall in costs will continue until the maximum production of the present plant has been reached, and the costs will be reduced by a substantial proportion of our estimate. During the following three or four years, new units of the Company's development programme will come into operation. We believe that during these years, both production and costs should show an improvement over the previous figures, but that the rate at which this improvement can be effected will not be so rapid. All the units should begin to give distinctly better results about the fifth year of the new period of protection. Costs should again come down with some rapidity until they reach the estimated level. The rate of fall of the works costs will probably vary substantially, but, as already explained, we think it would be fair to assume that the average costs throughout the period will be the mean between the costs of August, 1926, and those of 1933-34, except as regards structural sections and sleepers.

Average costs of structurals and sleepers.

60. The structural sections are at present mainly rolled in the old mills, but when the new plant is suitably equipped the heavier sections will be rolled entirely in the new 28-inch mill, and the lighter sections in the other new mills. The final cost of structural sections will be approximately midway between that of rails and that of bars. In view of the importance of closing the old mills as early as possible and of the fact that until that is done, the output of sections will be much less than in the later years, we do not think we should be justified in basing our proposal on an average works cost of sections for the seven years higher than Rs. 81 per ton, which is Rs. 1·5 above the mean cost of rails and that of bars. As regards sleepers we have no initial figure which we can regard as having any value for the ascertainment of a fair average cost. We anticipate, however, that, unless the price of wooden or cast iron sleepers rises or unless the Steel Company is prepared to forego part of its profit, the manufacture of sleepers outside the existing contracts will not be recommenced until the cost of sheet bar is so reduced that the average cost of finished sleepers for the remainder of the period will not exceed Rs. 74 per ton. We therefore take this as the fair average cost.

Average costs of all products for the whole period.

61. The average costs for the period may now be stated as follows:—

TABLE XI.

Product.	Actual costs August, 1926.	Estimate 1933-34.	Average for the period.
	Rs.	Rs.	Rs.
Rails	79·6	61·6	71
Fishplates	116·4	90	103
Structural sections	105·3	69·1	81
Bars	99	77	88
Plates	103·3	80·3	92
Tinbar	71·4	55·4	63
Black sheets	164	122	143
Galvanized sheet	263·7	200	232
Sleepers	...	72	74

CHAPTER IV.

Estimate of the future fair selling price of Jamshedpur Steel.

Explanation of fair selling price.

62. In the previous Chapter we have estimated for a seven year period the average works costs of the different steel products of the Tata Iron and Steel Company. In order to determine the price which the Indian manufacturer may reasonably be expected to obtain for his steel during this period, it is necessary to ascertain the additions which must be made to provide for the overhead charges incidental to the manufacture and marketing of the steel and for a reasonable return on the capital involved. The fair selling price for Indian steel may therefore be defined as the total of the charges under the following heads:—

I. Works costs.

II. Overhead charges, consisting of

(*a*) depreciation,

(*b*) interest on working capital, and

(*c*) Agents' commission, head office charges, etc.

III. Manufacturer's profit.

Present day valuation of fixed assets.

63. In order to fix the amount of depreciation the present day replacement value of the Steel Company's fixed assets must first be ascertained. In paragraph 72 of our first report, it was estimated that the total fixed capital expenditure of the Company, including the expenditure on the collieries, would in 1924-25 amount to Rs. 21 crores. We were satisfied on investigation that this sum was greatly in excess of the real value of the property whether regard was had to the profits which might be earned or to the cost of replacement at the prices prevailing in 1923-24. After carefully weighing all the evidence we reduced the value of the block, excluding the collieries, to Rs. 15 crores. We must now consider how far this figure requires modification. The expenditure in India, which covers the cost of labour and local materials in the erection of the works, the development of ore, limestone and dolomite quarries, the preparation of the works site and the construction of roads, houses, etc., will be little affected by foreign prices and need not be written down. About Rs. 3 crores may be allowed on this account and the remaining Rs. 12 crores will require adjustment in view of the change in the price of machinery and steel in the last three years. The main factors, which reduce the rupee

value of the plant, are the rise in the exchange value of the rupee and the fall in the sterling price of steel works machinery and buildings. The appreciation of the rupee exchange would justify a reduction in the value of the plant and equipment of rather over 10 per cent. and after considering the fall since 1923 in the price of steel and machinery we think that a total price reduction of about 20 per cent. in the rupee value of the imported portions of the fixed assets would not be unreasonable. We accordingly reduce the sum of Rs. 12 crores to Rs. 9½ crores. To this we must add the Rs. 3 crores on account of expenditure in India, which we have not written down. This will bring up the present replacement value of the complete fixed assets excluding the collieries to Rs. 12½ crores.

Capacity of the plant.

64. In our earlier estimate the maximum capacity of the plant was assessed at about 420,000 tons of finished steel per year. This figure was limited by the capacity of the steel making units, which is small in proportion to the capacities of the other producing departments, namely, the blast furnaces and the rolling mills. The Steel Company has now decided to raise the annual capacity of the works to about 600,000 tons by means of the development scheme to which we have referred in Chapter III. The fresh expenditure involved is about Rs. 2½ crores and is to be met, not by raising fresh capital, but out of the depreciation fund set aside to cover renewals and replacements, including those necessitated by obsolescence. This expenditure will not result in any increase in the capital of the Company, but will merely have helped to maintain the efficiency of the plant and, by securing a balance of output between the different departments, will have maintained the producing capacity in reasonable proportion to the value of the plant. No additional return could be, or indeed has been, claimed by the Tata Iron and Steel Company on this account. The value of the renovated plant and other fixed assets, excluding collieries, with an output of 600,000 tons would thus not exceed Rs. 12½ crores. Such information as we have been able to obtain regarding the cost of replacement of similar plant in Europe, suggests that, after making allowance for freight, duty, higher erection charges, and the additions and alterations necessitated by climatic conditions, a valuation of Rs. 12½ crores is not unreasonable.

Comparison between the value of assets and Company's capital.

65. It may be of interest to compare our estimate of the value of the plant with the Company's issued capital and debentures. If we add to our valuation of Rs. 12½ crores the replacement value of the Company's collieries, reduced from their book value in the same proportion as the other assets, the replacement value of the total assets of the Company is about Rs. 13¾ crores. The Company's capital consists of shares amounting to Rs. 10·45 crores and of issued debentures amounting to Rs. 3·34 crores, the total being thus practically equal to the replacement value of the Company's assets.

Depreciation.

66. Previously we allowed depreciation on the value of the fixed assets at the rate of $6\frac{1}{4}$ per cent. We have received no evidence in the course of this enquiry which would justify a departure from that figure. The annual amount of the depreciation to be earned on a capital value of Rs. $12\frac{1}{2}$ crores at this rate would be Rs. 78 lakhs per annum.

Interest on working capital.

67. In our earlier report we allowed Rs. $3\frac{1}{2}$ crores for working capital. This represented provision for raw materials, outstandings, and stocks of finished goods equivalent to about six months' production. The Steel Company in its representation of 7th May, 1926, suggested that this figure should be maintained. We are unable to agree to the suggestion. We find that the works cost of six months' production will amount to about Rs. 2·2 crores and we consider this sum to be a sufficient allowance for the average working capital during the seven year period. The reduction of working capital from Rs. 3·5 crores to Rs. 2·2 crores may appear heavy in view of the increase in output of steel but it must be remembered that there has been a heavy reduction in the estimated works costs. Further, the improvement in the financial position of the Company will afford a greater possibility of working capital being provided from reserves of various kinds and from undistributed profits. In 1923-24 we allowed a rate of $7\frac{1}{2}$ per cent. on the sum required for working capital, but we consider a rate of interest higher than 7 per cent. would not now be necessary. The annual interest charge at 7 per cent. on Rs. 2·2 crores is Rs. 15·4 lakhs.

Agents' Commission: Head Office.

68. As regards Agents' Commission and Head Office and other expenses, we think that Rs. 10 lakhs a year for both would be sufficient.

Manufacturer's profit.

69. In our first report we allowed an average profit of 8 per cent. on the value of the fixed assets and although the return on gilt-edged securities has fallen, we have no reason to think that an all round rate of 8 per cent. is excessive for an Indian commercial undertaking in present circumstances. The total profit which would be earned at this rate on Rs. $12\frac{1}{2}$ crores is Rs. 100 lakhs.

Profits and overhead charges on surplus pig iron.

70. It is now necessary to consider what portion of the overhead charges and of the manufacturer's profit must be debited to the pig iron produced in excess of the quantity required for the manufacture of steel. We do not think it likely that the average quantity of surplus pig iron will exceed 60,000 tons per annum, or that the average selling price will be more than Rs. 15 per ton above the works costs. The surplus will therefore be Rs. 9 lakhs. Of this amount approximately Rs. 3·3 lakhs represent overhead charges,* and

* To distribute the overhead charges between steel and surplus pig iron, the average output for each has been multiplied by the average works cost per ton and the charges divided in the same ratio as the one result bears to the other.

Rs. 5·7 lakhs profit. The overhead charges will be reduced by the former amount and the profit by the latter.

Final estimate of charges above works costs.

71. The total amount to be earned above the works costs is as follows:—

	Rs. lakhs.
I. *Overhead*—	
Depreciation	78·0
Interest on working capital	15·4
Agents' Commission, Head Office expenses, etc.	10·0
	103·4
Less chargeable to surplus pig iron	3·3
	100·1
II. Manufacturer's profit from the manufacture of steel	100·0
Less profit on surplus pig iron	5·7
	94·3
Total of I and II	194·4

Distribution of charges over production.

72. It remains to consider whether we should distribute the amount of Rs. 194·4 lakhs required to cover overhead charges and profit over the maximum production of which the plant is capable or over some smaller figure. We estimate that the plant will not reach the full capacity of 600,000 tons until the end of 1933-34. In the interval the production will increase only by stages. If, therefore, we calculated the proper allowance per ton on the maximum output, the assistance provided in the earlier years of the period for which protection is recommended would not be sufficient. If, on the other hand, we were to distribute the charges over the present actual production, the incidence per ton would be in excess of what would be necessary in the later years. On the whole, therefore, we think that it would be reasonable to distribute them upon the average of the whole period. According to the Company's original estimate, the average production of finished steel during the seven years would be 486,000 tons per year. In our opinion this is an under-estimate and we consider that the average production of finished steel during the seven year period should reach 500,000 tons.

73. We can now calculate the average incidence of the overhead charges and the manufacturer's profit per ton of finished steel. The results are set out in the following table, which also shows for comparison the corresponding recommendations made in our first report. We have allowed for an allocation of Rs. 3·3 lakhs overhead charges to surplus pig iron.

Incidence per ton of overhead charges and profit.

TABLE XII.

	Incidence per ton of finished steel.	
	1923-24.	Present proposal.
Overhead.	Rs.	Rs.
Depreciation	21·72	15·10
Interest on working capital	6·09	2·98
Agents' Commission, Head Office expenses, etc. .	2·89	1·93
Total overhead .	30·70	20·01
Manufacturer's profit	26·37	18·86
GRAND TOTAL .	57·07	38·87

Thus there is a reduction of about Rs. 18 per ton from the figure of 1923-24 which is equivalent to more than 30 per cent.*

74. The fair average selling price f.o.r. works of the various products has next to be determined by adding to the works costs the overhead charges and profit. We have seen that the average of this amount must be Rs. 38·9 per ton of finished steel. We do not propose to make a uniform addition of Rs. 38·9 to the works cost of each separate product, for it would not be justifiable to burden a semi-finished product, such as tinbar, with the same overhead charges and profit per ton as an expensive product, such as galvanized sheet. The manufacture of tinbar requires less plant than any other product and it is sold to a single customer in large and regular quantities under a long term arrangement. The actual overhead charges are therefore less than the average, and it would be in accordance

Fair selling price of different products.

*This reduction would have been greater had the overhead charges and manufacturer's profit been calculated on the estimate of final output of steel as was done in our first report.

with ordinary business practice to allow on such material less than the average surplus over works cost. We are thus unable to adopt the simple method of a uniform addition. On the other hand, any such method as the allotment of overhead charges and profit in proportion to the works cost of the product would lay unjustifiably high charges on the more expensive products. The ideal method would be to calculate, in respect of each product, the overhead charges and profit separately by ascertaining the correct amount required for each in relation to the value of the plant used in its manufacture, and the value of the stocks and stores, etc., required to be held. For this, however, the necessary information is not available in a sufficiently detailed and accurate form. We have, therefore, not applied a uniform addition for overhead charges and profit, but have modified it in the case of certain products to represent what we believe to be a fair allotment after consideration of the works cost and value of the plant utilized. Table No. XIII shows the average output of the different products for the period on which our estimates are based and also the average works costs for the seven year period and the resulting fair selling price. The distribution of the output is clearly liable to some fluctuation, but we see no reason to expect that it will vary in such a way as appreciably to affect the result—

TABLE XIII.

Product.	Average output.	Average works cost.	Overhead and profit.	Fair selling price f.o.r. works.
	Tons.	Per ton. Rs.	Per ton. Rs.	Per ton. Rs.
Rails	195,000	71	39	110
Fishplates	7,000	103	45	148
Structural sections	70,000	81	39	120
Bars	90,000	88	41	129
Plates	30,000	92	42	134
Tinbar	50,000	63	24	87
Black sheets	13,000	143	42	185
Galvanized sheets	20,000	232	51	283
Sleepers	15,000	74	36	110

Adjustment for losses on second class materials.

75. There are, however, two circumstances which necessitate some adjustment of the above fair selling prices. The first is the problem of the disposal of the second class material and cuttings produced

in the manufacture of finished steel. This material has to be sold at a lower price than the first class material and the average price of the steel is thus reduced. No adjustment is necessary for rails, fishplates and sleepers as the weight of second class material of these kinds is not included in the production of finished steel and the prices received are included in the credits in Table IX in Chapter III. The output of second class structural sections, bars, plates and sheets, however, is included in the production figures and adjustments are therefore necessary. The allowances we have made for sections, bars and plates are very similar to the actual reductions of the prices realised by the Company in 1925-26, but the allowances for sheets are substantially less than the actual reductions in 1925-26, when sheet manufacture was almost entirely new to the Company and the results were necessarily poorer than may reasonably be expected for the future. The adjustments for structural sections and bars are reduced by the fact that for part of the sales of standard quality material of these kinds the Steel Company received "extras" on the basis prices.*

Adjustment for internal freights.

76. The second adjustment is required on account of the freight from Jamshedpur to destination. Where the freight is higher than the freight on the competing imported steel from the nearest port, the Steel Company is at a disadvantage for which allowance must be made. This applies to rails, fishplates and sleepers. We estimate that an average allowance of Rs. 8 per ton should be made for rails and fishplates but that Rs. 5 per ton will be sufficient for sleepers, as the production is smaller and can be disposed of in the nearer markets. As regards the other materials, *viz.*, structural sections, bars, plates and sheets, the position is more complicated. Part of this material has to be sold in the ports and the remainder in the interior of the country. For sales in the port towns the Steel Company is clearly at a disadvantage compared with importers to the extent of the freights it has to pay from Jamshedpur to the ports. In other markets, however, the position is different. The Railway Administrations allow substantial reductions of freights on complete wagon loads (and the amounts of these reductions vary with the distances). When the Steel Company's material is sold in competition with dealers the scale of whose business does not permit of material being despatched in complete wagon loads, it bears less freight than the imported steel delivered in the same market. This difference has sometimes been described as a freight advantage which the Steel Company is said to enjoy over the dealers. In fact, however, except on the Bengal Nagpur Railway, the Steel Company gets no lower freights than others would if they followed the same system. The advantage lies in the ability of the Company to avail itself of the Railway Tariff for complete wagon loads. A further advantage is realised on sales in markets which are closer to

* In our calculations we have used "basis" prices, which are applicable to the greater part of the production, but for certain sections and for compliance with special requirements additional prices usually called "extras" are obtained.

Jamshedpur than to any port. In the circumstances adjustments have to be made for each product according to the balance of advantage or disadvantage in the cost of transport of the whole output. As production increases, " freight advantages " will tend to diminish, whilst the " disadvantages " in the ports will increase. We think that, taking the period as a whole, there will be a slight freight advantage on sections, bars, plates, and sheets. This advantage has been set against the loss on second class material.

Nett result of adjustments.

77. When these adjustments have been made, the fair selling prices of rails and fishplates must be raised by Rs. 8, and that of sleepers by Rs. 5. No alteration is required in the prices of sections and bars, but the price of plates must be reduced by one rupee, that of black sheets by two rupees and that of galvanized sheet by five rupees. The average figures to which the price of the different kinds of imported steel must be raised if the Steel Company is to obtain its fair prices f.o.r. works thus become—

TABLE XIV.

	Rs. Per ton.
Rails	118
Fishplates	156
Structural sections	120
Bars	129
Plates	133
Tinbar	87*
Black sheet	183
Galvanized sheet	278
Sleepers	115

* The price of tinbar is not subject to the adjustments described above.

CHAPTER V.

Prices of imported steel.

Course of prices during the past three years.

78. Before we can arrive at any decision regarding the necessity for the continuance of protection or regarding the measure of such protection, an investigation into the probable level, during the period of protection, of the prices of foreign steel, against which the Indian industry has to compete, is clearly necessary. The determination of this question will be facilitated by an examination of the course of prices of foreign steel in India during the last three years. Galvanized sheets and heavy rails have always been imported almost entirely from Great Britain, but as regards other articles, even in the pre-war period they were imported both from the Continent and from the United Kingdom and there was some difference between Continental and British prices in this country; in recent years the gap between the two sets of prices has been considerably wider. As the Indian manufacturer has to face competition both from the United Kingdom and the Continent, it will be convenient if the prices of imported British and imported Continental steel are separately considered. We have taken beams, bars and plates as representative of the kind of rolled steel in which there is competition from both sources.

British prices.

79. The table below gives the relevant figures for British steel:—

TABLE XV.

	Prices of British steel c. i. f. Indian port (per ton).											
	As found by the Board in the first enquiry 1923-24.			As found by the Board in October, 1924.			As found by the Board June-July, 1925.			As found by the Board in the present enquiry January-April, 1926.		
	£	s.	d.	Rs.	£	s.	d.	Rs.	£	s.	d.	Rs.	£	s.	d.	Rs.
Beams .	10	0	0	150	9	10	0	127	8	10	0	113	7	7	0	98
Bars .	10	0	0	150	10	5	0	137	8	15	0	117	7	13	0	102
Plates .	10	5	0	153	10	10	0	140	9	12	6	128	8	4	0	109

It will be seen that the sterling prices of British steel were much lower in the early part of 1926 than at any previous time during the period of protection, and that the corresponding rupee c.i.f. prices of such steel were about 30 per cent. below those of 1923-24, part of this fall being due to the rise in the rupee exchange. The

sterling prices are, in fact, very little above the pre-war level. The world's demand for steel has been diminished by stagnation in trade, lack of capital which has restricted new enterprise, and depression in the shipbuilding industry. On the other hand, the great expansion in steel producing capacity, which occurred in European countries during and immediately after the war, has intensified competition, particularly in the export market. The lower prices of raw materials and improvement in methods of production have possibly enabled British manufacturers to reduce their costs. But we believe that the main cause of the fall in British export prices, has been the severe competition of Continental countries aided by the heavy depreciation in their currencies.

Continental prices.

80. The prices of Continental steel for the period under review were:—

TABLE XVI.

	Prices of Continental steel c. i. f. Indian port (per ton).											
	1923-24.				October, 1924.				June-July, 1925.				January—April, 1926.			
	£	s.	d.	Rs.	£	s.	d.	Rs.	£	s.	d.	Rs.	£	s.	d.	Rs.
Beams	8	0	0	120	6	10	0	87	6	10	0	87	5	16	0	77
Bars	8	5	0	124	6	10	0	87	6	15	0	90	6	3	0	82
Plates	9	2	0	136	7	18	0	105	8	10	0	113	6	9	0	86

Except for a rise in the price of Continental steel in the middle of 1925—due to the temporary increase in the freight from Antwerp from 15*s.* to 22*s.* 6*d.* per ton in the month of April of that year—the course of both British and Continental prices during the past three years has been downwards. A comparison of the tables given above discloses a very large margin between the prices at which British and Continental steel could be landed in India in 1923-24. The gulf between the two sets of prices had widened by October, 1924, and the differences were then as follows:—

	£	s.	d.
Beams	3	0	0
Bars	3	15	0
Plates	2	12	0

Since 1924, however, the price of British steel has fallen more rapidly than that of Continental with the result that the gap between the two sets of prices is now as set forth below:—

	£	s.	d.
Beams	1	11	0
Bars	1	10	0
Plates	1	15	0

Future course of foreign prices.

81. It has been seen that, during the last few years, prices have seriously fallen, and we must now consider whether this fall is likely to continue, or whether a recovery may be expected. While there are various factors which affect the probable course of British and Continental prices differently, there are two features which are common to both, *viz.*, that European steel prices are now at about the pre-war level while the cost of living are considerably higher, and that a large proportion of the steel exported is sold without profit or even at a loss. If we were to base our opinion on these two circumstances alone, we should be inclined to think that European prices would show a tendency to rise. But some of the causes which in the past have contributed to the rapid decline of foreign prices are still at work, and their future effect is clearly a matter which merits careful examination. In considering the future level of prices, it will be convenient again to examine the British and Continental prices separately.

Uncertainty of Continental prices.

82. Although it would appear that variations on the scale experienced during the last three years are not likely to recur, there are elements in the situation which make the future course of prices of Continental steel very uncertain. The French franc is still liable to fluctuation, and, although the Belgian Government has now taken action to stabilize its currency, the exact effect of this measure on the price of steel cannot yet be ascertained. There are also other circumstances to be considered. In most Continental countries specially low railway freights are granted on steel carried to the ports. Further, in Germany the steel syndicates quote much lower prices for export than for the internal market, the producers of the exported steel being compensated out of the receipts from the sales effected in Germany. Export prices would clearly be affected by any alteration in these conditions, but it is impossible to estimate the extent of any future changes. Nor can we exclude from consideration the probability of a general stabilization of the Continental exchanges in the comparatively near future and the consequent elimination of a serious element of depression in steel prices.

Continental Steel Cartel.

83. An event in the Continental steel trade which has attracted much attention recently is the formation of the Steel Cartel, under which the output of steel in Germany, France, Belgium and Luxemburg will be so regulated as to avoid over-production. The operations of the cartel are generally expected to lead to a rise in the prices of steel. While we do not question that this will be the tendency, we cannot overlook the fact that, in 1925 and the first quarter of 1926, the production was at the rate of about twenty-five million tons a year, while the combined capacity of the countries concerned is between seven and eight million tons higher. It is not impossible that the co-operation, which has now commenced, may lead to a joint sales organization which may both directly and

indirectly reduce costs and thus enable profits to be earned at lower prices. This, in turn, would stimulate the demand for steel and keep the works more fully occupied. The amalgamation in the spring of 1926 of several of the largest steel producing firms in Germany into one company, the United Steel Works, is an outstanding example of the effort to reduce costs by minimising general expenses and by allotting to each works the manufacture of the kinds of steel which it can most economically produce. Some fluctuation in prices is therefore not improbable before the final effect of the Steel Cartel manifests itself, and it is impossible to forecast with any degree of certainty even the general direction in which prices may move. We feel that in view of the many uncertain elements in the situation, any definite conclusion regarding the duration or extent of future changes in the prices of Continental steel would be of little value, and that a scheme of protection based on an estimate of the future level of such prices would be uncertain in its operation. It appears to us to be safer to take the 1926 prices as our starting point and fix the measure of protection which, in our opinion, the industry may require on the supposition that these prices continue. The question of the action to be taken in the event of any considerable change in the price of imported Continental steel is one which we shall consider later.

Future British prices.

84. There are certain circumstances which make for greater stability of British than of Continental prices. The complications of variable exchanges are absent, while bounties and special railway freights for export steel are not granted in the United Kingdom. On the other hand, we cannot exclude the possibility of the competition of Continental steel, which may result from depreciating currency or other causes, reacting on the price of British steel. We are, however, satisfied that such reaction, if it occurs, will be of a temporary nature and of limited extent. Nor do we believe that in view of the present level of prices any further substantial decrease in cost in the United Kingdom will occur. It is true that any reduction in the price of coal as a result of the settlement of the coal dispute would affect the cost of steel. But in view of the unsatisfactory financial results of coal companies in England even with the assistance of the coal subsidy, it appears unlikely that any large decline in prices will occur. Other possibilities which might lead to a reduction in steel prices are the more complete modernization of the works or the formation of a combination among the larger manufacturers. But the effect of such improvements would be realized only slowly while a combine might so reduce internal competition as to obviate any fall in prices. Further the financial position of most British steel firms is so difficult that they are compelled to adopt all possible measures to avoid price reductions. While, therefore, we do not ignore the possibility that there may be some fluctuations in British prices, we see no reason to expect that they will be other than relatively small and temporary. The financial condition of the Steel industry in India is now very different from what it was in 1924 and the

industry should be able, under our scheme of protection, to bear the strain of any purely temporary decline in the price of British steel, as any losses which may thereby be incurred would be set off on the whole by the profits resulting from temporary rises in price during the period of protection. Nor does it appear that, even if Continental prices rose, British prices would rise to the same extent. The price of British steel was already much higher at the beginning of 1926 than that of Continental steel, and higher even than the level of Continental prices to which the operations of the cartel are expected to lead. The capacity of the British steel works is greatly in excess of the output of 1925 or of the first few months of 1926, and it is hardly probable that the demand for steel in the export markets will so increase as to enable the British manufacturers to obtain much higher prices than those of 1926 even if there is some increase in the price of Continental steel. We see, therefore, no reason to anticipate any substantial permanent rise in British prices.

1926 prices adopted as a basis for calculation.

85. We are now in a position to determine the prices of imported steel which should be taken for the purpose of calculating the protection required by the Indian industry. Since steel prices after April 1926 have been influenced by the effects of the coal dispute in Great Britain we propose to base our estimate on the prices of the first four months of 1926. We regard the prices of British steel for this period, subject to slight modification, as fairly representative of the British prices which may be expected to prevail during the period of protection, while, as has already been shown, we regard the future level of Continental prices as entirely uncertain. The figures at which we have arrived are based on the statements of c.i.f. prices supplied to us by the Tata Iron and Steel Company, by various importing firms and by Railway Administrations. The sterling c.i.f. prices have been converted into rupees at the rate of 1*s.* 6*d.*

Landing and other charges.

86. The prices of imported steel landed in India include the c.i.f. prices, landing charges, port dues, etc. We have found it necessary in view of changed circumstances to make some alteration in our estimate of landing and other charges. In our report, dated the 8th November, 1924, page 35, we allowed Rs. 5 for British and Rs. 10 per ton for Continental steel on this account. Our reasons were that the Tata Iron and Steel Company's steel was mainly sold in Calcutta, where the engineering firms, which used British standard quality, were able to transport imported steel by water direct from the ship to their yards, thus saving about half the normal cost of handling and cartage. As the engineering firms were the importers, they would not, when comparing the cost of imported with Indian steel, take into account the allowance for profit or commission. The output of steel in India will be much larger during the next seven years and it will no longer be correct to base our estimate of landing and incidental charges on the conditions prevailing only in Calcutta, for an increasing proportion of the Steel Company's sales

will have to be made through dealers on commission and not direct to the engineering firms. We propose, therefore, to eliminate from our estimates of these charges the allowance for merchant's profit and commission, and to take Rs. 6 per ton as representing the landing charges on all sections, plates, sheets, and British bars. For Continental bars, we have taken Rs. 8 per ton. It has been established in the evidence submitted to us that the deliveries of Continental bars are on the average about 2 per cent. below the weight paid for by the importer and this deficiency in weight has the effect of raising the real price by about Rs. 2 per ton above the nominal prices. The evidence indicates that the usual landing charges for rails, fishplates and sleepers are approximately Rs. 3 per ton.

Prices of imported steel without duty.

87. The following table gives our conclusions regarding the landed prices (without duty) of foreign steel, which should be taken for the purpose of estimating the protection required by the Indian Steel industry.

TABLE XVII.

Product.	British.	Continental.
	Rs. per ton.	Rs. per ton.
Rails	105	...
Fishplates	150	...
Structural sections	104	86
Bars	103	90
Plates	115	92
Black sheets	153	122
Galvanized sheets	240	.
Sleepers	...	105

The British price of steel sleepers has not been given as we have received no evidence of recent prices. We have already explained that galvanized sheet is imported almost exclusively from the United Kingdom, and is not therefore affected by Continental competition. An examination of the prices of the last three years indicates that, apart from a reduction consequent on exchange appreciation, the price of galvanized sheet has remained fairly steady and we have no reason to suppose that there will be any large variation in the future though temporary market fluctuations may occur. The c.i.f. price of imported heavy rails is already approximately at the pre-war level and cannot be expected to fall further. Moreover, the future price of rails is affected by the reconstitution of the

European Rail Makers' Association in the middle of 1926. This Association now controls all exports of rails and fish-plates from the leading European countries and reserves to each country its own internal markets, which in the case of the United Kingdom include also the markets of the Dominions, India, and the Colonies. Continental rails will therefore no longer be exported to India and it appears to us improbable that the price of rails will be further reduced. On the contrary, some increase in price may be expected and we have thought it advisable, in fixing our estimate of the probable price of imported rails during the period of protection, to allow for an increase of ten shillings per ton.

General conclusions as to future level of foreign prices.

88. The question of the future level of prices of foreign steel imported into India is one of such great importance and has so direct a bearing on our recommendations regarding the protective duties, that we think it desirable to summarize our conclusions in the matter. We find that the influences, which may affect the future course of Continental prices, are so numerous and their effect so uncertain that it would be unsafe to frame a scale of duties on the assumption that any level of prices, which we might now adopt, would continue without substantial change throughout the period of protection. We have, therefore, taken for the purpose of our estimate the Continental prices of the early months of 1926. The question of the action to be taken in the event of any considerable changes in these prices is discussed elsewhere in our report. On the other hand, we think it may be anticipated with some degree of certainty that the level of British prices which we have assumed will, with slight modifications, continue during the protective period and that, though there may be temporary fluctuations, any permanent change such as would render the protective duties which we recommend inadequate or excessive, is not likely to occur.

CHAPTER VI.

Method and amount of protection.

Continuance of protection necessary.

89. We have now ascertained the fair selling price of steel in India and have determined the prices of imported steel which we propose to take for the purpose of our scheme. According to the system, which we adopted in our first enquiry, and which we intend to follow in this report, the difference between these two sets of prices is the measure of the protective duties which we should recommend. The following table gives the relevant figures:—

TABLE XVIII.

—	Fair selling price per ton.	C.I.F. PRICES LANDED WITHOUT DUTY PER TON.	
		British.	Continental.
1	2	3	4
	Rs.	Rs.	Rs.
Rails	118	105	...
Fishplates	156	150	...
Structural sections	120	104	86
Bars	129	108	90
Plates	133	105	92
Black sheets	183	153	122
Galvanized sheets	278	240	...
Sleepers	115	...	105

As we have explained in the earlier Chapters of this report, a considerable reduction in the cost of manufacturing steel in India has already occurred and during the next seven years further economies on a substantial scale are expected. In 1923-24, the works costs were about Rs. 126·5 per ton of finished steel. By 1925-26, the actual works costs had fallen to Rs. 111·7 per ton, the figures for August, 1926, show a further reduction to Rs. 98·4 while our estimate for 1933-34 is Rs. 78·8 per ton. The fixed assets of the Steel Company have also been written down to their replacement value and the incidence per ton of overhead charges and manufacturer's profit

has fallen from Rs. 57 per ton to Rs. 39 per ton. But although, in consequence of these reductions, there will be a large fall in the fair selling price of the steel products manufactured in India, amounting on the average to Rs. 53 per ton, it will be observed from the figures set forth in Table XVIII that the prices which we consider reasonable for Indian steel still stand considerably above the level of the prices at which foreign steel can be imported. It is obvious therefore that, while the protection needed by the Indian industry may now be on a smaller scale, it cannot yet be completely discontinued.

Duties on rails, fishplates and galvanized sheets.

90. We shall deal first with rails, fishplates and galvanized sheets. In these articles foreign competition is confined almost entirely to the United Kingdom and the problem of providing adequate protection for them is not complicated, as in the case of the other articles, by the fact that competition arises both from the United Kingdom and from the Continent. A duty representing the difference between the Indian fair selling price and the imported price of British material (Table XVIII), will afford in each case the required measure of protection. We accordingly recommend a duty of Rs. 13 per ton on heavy rails, and of Rs. 38 per ton on galvanized sheets, or of Rs. 30 if the duty on spelter is abolished as was recommended in our report on galvanized hardware.* On our estimate the duty which should be imposed on imported fishplates would be only Rs. 6 per ton which is less than a 10 per cent. *ad valorem* revenue duty. The prices of fishplates and rails are, however, closely inter-related and we do not therefore recommend that fishplates should be removed from the protected part of the schedule. We propose that the duty on fishplates should be *ad valorem* at the rate imposed on non-protected steel, subject to a minimum duty of Rs. 6 per ton.

Duty on steel sleepers.

91. Steel sleepers are not only liable to competition from abroad, but are also subject to severe internal competition. Any protective duty which resulted in an appreciable rise in the price of steel sleepers, might lead to the substitution of wooden or cast iron sleepers on a considerable scale, and thus retard the development of the industry. The difference between the fair selling price of Indian steel sleepers and the c.i.f. landed price (without duty) of foreign sleepers is only Rs. 10 and it appears that the present revenue duty would be sufficient even to meet Continental competition. Sleepers are at present in the non-protected part of the schedule but we think it desirable to remove them to the protected part in order to enable Government to raise the duties, should any developments in Europe make such a course advisable. We accordingly recommend the imposition of a protective duty of Rs. 10 per ton on steel sleepers.

* If the gross consumption of spelter per ton of galvanized sheet is 280 lbs. the duty on the spelter consumed would be equivalent to Rs. 9·4 per ton of sheet. The fall in the price received for the zinc dross would probably reduce the nett effect of the removal of the spelter duty to Rs. 8 per ton of sheet.

Tinbar not to be protected.

92. Tinbar has not been referred to in Table XVIII because it is at present subject only to the 10 per cent. revenue duty, and we do not propose any alteration. The Steel Company's tinbar is sold to the Tinplate Company of India at a price which for the period of our scheme, is independent of the rate of duty. The necessity for a protective duty would therefore not arise, unless a new firm commenced the manufacture of tinplate in India, and the Steel Company was able to establish that imported tinbar entered the country at a price with which it could not compete under the revenue duty. We do not think it advisable to base a protective duty on a hypothetical situation, and we therefore propose that tinbar should remain subject to the revenue duty only.

Sections, bars, plates and black sheets.

93. The treatment of the remaining products, *viz.*, sections, bars, plates and black sheets, is complicated by the fact to which we have referred in the previous Chapter, that they are imported into India both from the United Kingdom and from the Continent and that there is a wide margin in the respective import prices. The Tata Iron and Steel Company produces steel of British Standard Specification, but the market for this class of steel is not sufficiently wide to absorb the whole of the Company's production; and, in consequence, a proportion of Indian steel must be sold on the basis of the lower prices at which Continental steel enters India. It is obvious, therefore, that a system of duties based on the imported price of British steel affords the Indian industry inadequate protection. The problem before us is to devise a scheme of protection which, while adequate for the Indian Steel industry, will not impose on the consumer of either class of steel an undue burden, and which will not be inconsistent with the well-being of the general community.

Six possible methods of securing the necessary protection.

94. The following appear to us the only methods which merit discussion:—

(1) The imposition of different duties according to the quality of the steel imported.

(2) The imposition of uniform duties equivalent to the difference between the fair selling price and the higher of the foreign prices, and the payment of a bounty which will give the assistance necessary to enable the Indian manufacturer to compete with the lower of the foreign prices.

(3) The imposition of uniform duties on all steel at rates based on the Continental prices, these rates being obviously adequate to protect the Indian industry against competition from any source.

(4) The imposition of higher duties on steel imported from specified countries whence steel can be exported at very low rates, on account of depreciated exchanges, the payment of bounties, or other similar causes.

(5) The imposition of uniform duties on steel imported from any source based on the difference between the fair

selling prices and the weighted average prices of foreign steel.

(6) The imposition of duties on British steel sufficient to protect the Indian manufacturer against competition from the United Kingdom, and the simultaneous imposition of a different set of duties on steel imported from other countries.

Methods (1) to (4) discussed.

95. The first of these methods has already been discussed in our report of November, 1924, and we feel that the objections there set forth still hold good. A system of differentiation of duty according to the quality of steel, would involve the appointment of a metallurgical expert and the provision of suitable testing machinery at each Customs office, and would further inflict great inconvenience on the commercial community, since delay in obtaining delivery from the Customs department would be unavoidable. A system of bounties is open to objection on financial grounds. We should hesitate to commit Government to the payment of bounties over so long a period as seven years. The production of the Indian Steel industry is constantly increasing, and even if no additional steel works were established in India, we could not feel reasonably certain that the revenue derived from the protective duties would be sufficient to cover the bounties required. We think it necessary to explain that the revenue derived from the duties levied on protected steel cannot be regarded as wholly obtained by the introduction of the protective system and therefore available for the payment of bounties. The revenue duty, which would in any case be imposed, has first to be deducted, while allowance has also to be made for the additional revenue which would be received, if the import of foreign steel were not restricted by the increase in duty consequent on the adoption of a policy of protection. We regard the financial objection to a policy of bounties for so long a period as decisive. But in any case, we consider that a system of bounties, while it may to some extent protect the Indian industry against losses due to foreign competition, is not nearly so effective in preventing unfair competition, especially where it is aided by the uncertain factor of a depreciating exchange. The calculation of the protective duty on the lowest price of imported foreign steel is open to the objection that it would result in the grant to the Indian industry of greater protection than is necessary. The price obtained for British Standard Specification steel would be excessive and the users of this class of steel would be unduly penalized. We have, therefore, rejected this method of protecting the industry. The fourth method contemplates the imposition of what are commonly referred to as anti-dumping duties against those countries whence steel is exported at a very low price. Such duties are imposed elsewhere when the price of imported foreign steel has been lowered by depreciation of exchange, the grant of bounties, favourable freights on export, or any other causes which lead to unfair competition. On similar grounds 'anti-dumping' duties might justifiably be imposed against Belgian, French, or German steel, imported into India. French steel is imported in

such quantities that any scheme which did not apply to France would fail in its purpose. The question was discussed at length in our report of November, 1924, and the conclusion was reached that the French Commercial Convention of 1903 was a bar to the adoption of a scheme of this nature. Further, a duty imposed on French steel on the ground of depreciated exchange, could be avoided by export through other countries where the currency is now on a gold standard. This method therefore affords no practicable solution of the problem before us.

Two methods practicable: uniform or differential duties.

96. There remain two methods by which our object can be attained, namely by a system of differential duties, a higher duty being imposed on Continental and a lower duty on British steel, or by the adoption of a uniform duty, fixed at some intermediate figure on a consideration of the probable sales of Indian steel against British and Continental competition respectively during the period of protection. We regard both these methods as practicable and it is therefore necessary to examine in somewhat greater detail the probable results of their application. In determining in which direction the balance of advantage lies, we should be guided by the three considerations already referred to, namely the necessity of securing adequate protection to the Indian Steel industry, the equitable distribution of the burden over the different classes of steel consumers, and the economic welfare of the country generally.

Differential duty system described.

97. If a system of differential duties is to be applied without any modification, the duties applicable to each class of steel may be stated as follows:—

TABLE XIX.

	British steel. Rs. per ton.	Continental steel. Rs. per ton.
Structural sections	16	34
Bars	21	39
Plates	18	41
Black sheet	30	61

Under these two scales of duties, the selling prices of British and Continental steel in India would be the same. But there is a difference in the quality of the two classes of steel, and we regard it as of importance that there should be a difference in price in India corresponding to this difference in quality. We have received evidence that steel made to British Standard Specifications on the Continent can be purchased at 10 shillings, or about Rs. 7, more than the price of non-standard Continental material. We consider that, if this gap in prices is to be maintained, some addition must be made to

the duty on British steel, and some decrease in the duty on Continental steel. Protection which is adequate but not excessive, will not be secured to the Indian industry, unless this adjustment of duties is made in the proportion which it is estimated that the sales of Indian Standard steel will bear to the sales of Indian non-standard material during the whole period of protection. Nor will this arrangement be unfair to either class of consumer. On the one hand, the duty on Continental steel will not be reduced by the whole of the amount which represents the difference in the quality of steel, and to this extent the consumer of non-standard Indian or Continental steel is called on to pay a somewhat higher price than on abstract grounds might be considered necessary; on the other hand, the price paid by the consumer of Standard British or Indian steel will also be somewhat higher. Both classes of consumers are required to make some sacrifice in the interest of the Indian Steel industry, and the burden is distributed roughly in inverse ratio to the demand for each class of steel. The arrangement on the whole appears equitable.

Scale of differential duties required.

98. After making these adjustments the duties on each class of steel will stand as follows:—

TABLE XX.

	British steel. Rs. per ton.	Continental steel. Rs. per ton.
Structural sections	19	30
Bars	26	37
Plates	20	36
Black sheet	35	59

In the following table the fair selling prices of steel in India are compared with the duty paid prices of imported British and Continental steel:—

TABLE XXI.

	Average fair selling price. Rs. per ton.	British steel. Rs. per ton.	Continental steel. Rs. per ton.
Structural sections	120	123	116
Bars	129	134	127
Plates	133	135	128
Black sheet	183	188	181

Description of the weighted average system of duties.

99. It is now necessary to describe the remaining system by which the necessary amount of protection can be secured to the Indian industry. Our general method remains the same, the difference between the fair selling price of Indian steel and the imported price of foreign steel being still the measure of the protection required. But in this case, a single scale of duties is proposed, by selecting as the imported price of foreign steel a figure intermediate between the import prices of British and Continental steel. The principle followed in determining the import price is as follows. The proportion which the Steel Company's sales of Standard material may be expected to bear to its sales of non-standard steel during the period of protection is first ascertained, and the average import price of foreign steel is determined with reference to this proportion. Following this system of calculation we arrive at the duties shown below:—

TABLE XXII.

—	Fair selling price. Rs. per ton.	Weighted average import price without duty. Rs. per ton.	Duty required. Rs. per ton.
Structural sections	120	95	25
Bars	129	94	35
Plates	133	107	26
Black sheet	183	128	55

The duty paid prices of imported British and Continental steel will then be as follows:—

TABLE XXIII.

—	British steel. Rs. per ton.	Continental steel. Rs. per ton.
Structural sections	129	111
Bars	143	125
Plates	141	118
Black sheet	208	177

Weighted average scheme examined.

100. We are now in a position to consider the relative merits of the two schemes. The weighted average system of duties has the advantage of simplicity in administration. With a single scale of duties for steel from all sources, inquiries as to the country of export or of manufacture become unnecessary, and delay in the Customs department is reduced to a minimum. On the other hand, it must be recognized that an estimate of the Steel Company's probable sales of Standard and non-standard material during a period of seven years, is not a very secure foundation on which to build a system of duties. In our original scheme of protection, uniform duties were recommended on the weighted average system, and within a few months of the imposition of those duties, it appeared, that in consequence of the heavy fall in Continental steel prices the proportion of the Steel Company's sales against Continental material was much greater than the proportion assumed by us in calculating the duties, and to this extent the duties recommended were inadequate. While we do not anticipate price movements of the same magnitude as those which have occurred in the past three years, it is impossible to foresee all the factors which control the sale of steel, and it may well be that changes in the demand for steel or greater internal competition such as might result from the construction of a new steel works in India, may disturb the proportion of the sale of Indian Standard and non-standard material. In such an event, uniform duties based on the weighted average principle will fail to maintain that degree of protection at which we aim.

Burden on the consumer of Standard steel.

101. It is obvious that a system of uniform duties will impose a heavier burden on the consumer of Standard British or Indian steel than would be imposed under a system of differential duties, and although, with the greater approximation of British to Continental prices, this burden has somewhat declined, it will appear that the amount is still appreciable. A reference to Tables XXI and XXIII will show that the price of British steel after payment of uniform duties would be higher than under a system of differential duties, by Rs. 6 per ton for structural sections, Rs. 9 per ton for bars, Rs. 6 per ton for plates, and Rs. 20 per ton for black sheets. We attach considerable importance to this aspect of the case, because the general user of steel has no organization by which, when Continental steel is certified to be of British Standard, the value of the certificate can be checked. If, therefore, he wishes to use British Standard steel, he must use steel of either Indian or British manufacture. Ordinary Continental steel imported into India is less reliable in quality, accuracy of rolling, and strength, than British Standard steel, and is for this reason unsuitable for use in the construction of large buildings, bridges, and other works, in which any defect may seriously endanger public safety. Any measure, therefore, calculated to discourage the use of British Standard steel, save in so far as this is essential for the protection of the Indian industry, is clearly undesirable. A system of uniform duties would involve an increase in the cost of rolling stock, railway bridges, and other constructional work. Irrigation and water supply schemes would

be more costly, and industrial development would be affected, since factory construction would be more expensive. Municipal corporations, in particular, undertake many works in which the use of Standard steel is essential. As examples we may refer to the recent construction of a large steel water main by the Bombay Corporation, and the project for the replacement of the Howrah Bridge. In all such works, a system of uniform duties would necessitate additional expenditure. Nor can we overlook the fact that the Steel industry is a basic industry and any unnecessary increase in the price of Standard steel will raise the cost of the raw material of other Indian industries. This in turn necessitates an increase in the compensatory protection required by industries using Standard steel and a further burden is thereby thrown on the consumer. The fabricated steel industry affords an example in point. A higher duty on plates, bars, and sections, necessitates a corresponding duty on imported fabricated steel, and this will affect the price of both Indian and imported fabricated steel.

Uniform duty tends to discourage manufacture of machinery in India.

102. In the manufacture of machinery the quality of the steel used is of the utmost importance, and it is desirable that the duty on Standard steel should be kept as low as possible. The supply of cheap machinery is an essential condition of industrial progress, and for this reason the grant of protection to manufacturers of machinery to compensate them for the higher price of steel under a protective tariff, is likely to present serious difficulties. At the same time, it is obviously disadvantageous to penalize the manufacture of machinery in India by the imposition of higher protective duties than are absolutely necessary, and to this extent a system of uniform duties would tend to retard industrial development in this country. Further, if Continental steel is sold in India at very low prices, the Indian industry may be forced in self defence to lower its standards and, the quality of Indian steel might, in consequence, deteriorate.

Burden on the consumer of non-standard steel.

103. It may, however, be urged that the additional burden on the user of British steel, is at least counterbalanced by the lower price of Continental steel, as indicated in Table XXIII. We are not, however, satisfied that the consumer of Continental steel would benefit so much as might appear at first sight. Apart from such factors as a general slackening of the up-country demand for steel, it is obvious that in the absence of free competition, there is nothing to prevent the price of Continental steel from approaching that of steel of Standard quality. It cannot ordinarily rise above the point where it would be more advantageous for the consumer, in view of the difference in quality between the two classes of steel, to purchase steel of Standard quality at a correspondingly higher price. The money value of this difference we have estimated at Rs. 7, and it follows, therefore, that the British price of Standard steel, less Rs. 7, practically sets the limit to the possible increase in the market price of Continental steel above the import price. The margin between this limit and the import price, as shown in Table XXIII, is larger under a uniform system of duties and it seems to us not improbable

that the apparent advantage to the consumer of Continental steel under this system may merely result in larger profits to the dealer. We have received evidence that in other port towns competition is more limited and less severe than in Calcutta—where it is accentuated by the sale of the Steel Company's products—and that the general level of prices of Continental steel is higher. Under existing circumstances, therefore, it appears that the consumer does not gain the advantage of the full difference between the duty paid price of Standard and Continental material in every part of the country.

System of differential duties examined.

104. We now turn to a consideration of the system of differential duties. Some additional complexity in administration in the Customs Department must necessarily result. But the evidence given by the Collector of Customs, Calcutta, indicates that the administrative difficulties are not so great as were supposed at the time when we submitted our second report on the Steel industry. The present prices of imported British steel, on which our proposals are based, already reflect to a very large extent the economies rendered possible by the use of semi-finished Continental material. No investigation, therefore, appears to be required into such questions as whether sheets or bars, rolled in England from Continental sheet bar or billets, should be treated as of British origin. Further, the gap between British and Continental prices has now narrowed considerably. There is, thus, less inducement for exporters to re-ship Continental steel from British ports, thereby incurring additional charges on account of freight, etc. We are satisfied, therefore, that a system of differential duties is not impracticable from the administrative point of view, and we believe that no undue delay or obstruction to trade will result.

Question of Imperial Preference considered.

105. It may be urged that a system of differential duties in the form suggested involves the adoption of Imperial Preference in relation to steel. In the sense that our proposals necessarily imply a definite decision on the question of policy, such a statement of the case is incorrect. In our chapter on the price of imported steel, we have already explained that while we have some grounds for confidence in the stability of future prices of imported British steel, the future price of Continental steel is wholly uncertain. We contemplate that in the proposed scheme of differential duties, the duties on British steel will be definitely fixed for the period of protection, and those on Continental steel will be liable to variation. At what point the prices of Continental steel will stabilize, and whether there will then be any difference between the duties imposed on Continental and British steel, are matters which depend on the future play of economic forces, and which cannot therefore be foreseen. But in any event, we feel that we are not concerned with the political aspect of the case. Our enquiry is confined to economic issues, and if a system of differential duties is desirable in the interests of India on economic grounds, for the adequate protection of Indian industries, and for a fair adjustment of the burden involved, we do not feel debarred by political considerations from recommending it.

System of differential duties adopted for sections, bars, plates and black sheet.

106. We have now examined the relative advantages of the two possible methods of determining the duties on those products in regard to which the Indian industry has to meet competition both from the United Kingdom and from the Continent, and we have no doubt that a system of differential duties affords, on the whole, the best solution of the problem before us. It is now necessary to decide the exact form which the duties should take. It is obviously possible to impose two separate scales of duties, one applicable exclusively to the United Kingdom and the other to the Continent. But such an arrangement would tend to obscure the real position. We consider it important to promote a sense of confidence in the stability of the Steel industry in India, and for this purpose it is desirable that the industry should be assured of at least a minimum amount of protection, not subject to variation during the period for which the scheme is adopted. We therefore propose that steel from all sources should be subject to the duties shown in Table XX as applicable to British steel, but that in addition there should be imposed on steel coming from countries other than the United Kingdom duties equivalent to the difference between the two scales of duties shown in Table XX. Since the import of steel into India from elsewhere than Great Britain or the Continent is negligible, the additional duties will in practice be imposed almost exclusively on Continental steel.

Duties recommended.

107. The duties which we recommend may now be tabulated as follows:—

TABLE XXIV.

	Basic duty. Rs. per ton.	Additional duty. Rs. per ton.
Rails	13	...
Fishplates	*Ad valorem* duty according to revenue tariff, minimum Rs. 6.	...
Galvanized sheets	38 (if duty on spelter is retained).	...
	30 (if duty on spelter is removed).	...
Sleepers	10	...
Structural sections	19	11
Bars	26	11
Plates	20	16
Black sheet	35	24

If during the period of protection, rails, fishplates, galvanized sheets, or sleepers should be imported from the Continent at prices lower than those underlying the basic duties,—a contingency which we regard as most improbable—and the position of the Indian industry is thereby jeopardized, additional duties should be imposed on such products, when imported from elsewhere than the United Kingdom.

Basic duties and additional duties.

108. We have explained in a previous chapter that, in our opinion, the future price of imported British steel will be relatively stable, and that such fluctuations as may occur in either direction will tend to cancel out in the course of the seven year period, and are not likely to disturb the general scheme of protection. We contemplate, therefore, that the duties calculated on the import price of British steel should be regarded as basic duties, not subject to alteration unless, on an enquiry held not earlier than the year 1933-34, it is decided that the duties should either be removed or modified. On the other hand, the future prices of Continental sections, bars, plates, and black sheets, are extremely uncertain, and it is impossible to foresee at what level they will finally settle, when the exchange variations have been eliminated and the effect of the European steel combinations has manifested itself. We propose, therefore, that the Government should be empowered to vary the additional duties on bars, sections, plates, and black sheet, upon an examination of import prices. We fully realize the trade objections to frequent changes in duties, but in the present conditions we consider some variation in the tariff unavoidable, and the disturbance to trade will be more limited under a differential than under a uniform system of duties. Moreover, it is not proposed that the provision regarding these additional duties should operate when variations in price are small or of a temporary character, such as result from ordinary fluctuations of market conditions.

Importance of the Company disposing of its full output of rails.

109. Before concluding this chapter we think it necessary to draw attention to a matter of some importance in connection with the duty which we have proposed on medium and heavy rails. Of the average annual production of finished steel during the period of seven years for which we have proposed protective duties, we estimate that two-fifths will be produced by the Steel Company in the form of rails and fishplates. It is obviously a matter of grave importance to the industry that nothing should occur which might render the protection on rails ineffective. The duty on rails of Rs. 13 per ton, which we have proposed, is very low, and the cost of production on which it is based presupposes that the industry obtains orders sufficient in each year to enable it to work up to its maximum rail output. We estimate that the average annual rail output of the Tata Iron and Steel Company will not exceed 200,000 tons during the next seven years and if a duty of Rs. 13 per ton only is imposed on rails, it is essential that the Railway Administrations should arrange to purchase the whole of their requirements of rails in India so far as they can be produced

in the country. The f.o.r. fair selling price of rails at Jamshedpur is so low, namely Rs. 110 a ton, that the Indian railways as a whole would undertake no great sacrifice if any purchased the Company's output of rails on the average at this price. A reduction in the orders of rails by some 40,000 or 50,000 tons would raise the cost of production by several rupees, and if the Government are unable to arrange with the Railway Administrations that orders are placed for the whole of the Company's production of rails, a substantial increase in the duty should be made.

Comparison of our proposals with existing scheme.

110. The duties which we recommend may now be compared with the existing duties and the resulting duty-paid prices of imported steel with those contemplated in our First Report.

TABLE XXV.

Products.	Duties now recommended.		Existing duties.
	Basic Rs. per ton.	Additional Rs. per ton.	Rs. per ton.
Rails	13	..	14 plus bounties.
Fishplates	6 (minimum)	..	14 „
Structural sections . . .	19	11	30
Bars	26	11	40
Plates	20	16	30
Black sheets	35	24	30
Galvanized sheets . . .	38	..	45

It will be seen that the import duties on all forms of steel have been reduced except on sections and plates of non-British origin and on black sheets from all sources. But the reduction of duties is not the full measure of the reduction of the burden on the country as a whole which the protection of the Steel industry has involved. The payment of bounties is completely dispensed with under our proposals. The importance of this will be realized from the fact that the total amount of the bounties paid on rails and fishplates and on steel ingots between the 1st April, 1924 and 31st March, 1927, will probably be Rs. 209 lakhs.

Effect of proposals on steel prices.

111. Although the whole of the protection required will be given under our scheme by import duties, and not partly by duties and partly by bounties as at present, the future level of steel prices in India should be lower than at any time during the operation of protection—or indeed since the end of the Great War. The following

table gives the duty-paid prices of imported steel landed in India. For the purpose of comparison we must assume that the proposed duties will be fully reflected in the price of imported steel.

TABLE XXVI.

	DUTY-PAID PRICES (RS. PER TON).		
	Under existing duties: Averages for British and non-British steels.	Under proposed duties.	
	1923-24-Estimate.	British.	Non-British.
Rails	154	118	..
Structural sections	175	123	116
Bars	180	134	125
Plates	180	135	128
Black sheets	230	188	181
Galvanized sheets	345	278	..

The prices of rails should thus be at least Rs. 35 per ton lower than the price three years ago, while the corresponding fall in the prices of the other products will average about Rs. 50 per ton.

CHAPTER VII.

Detailed recommendations regarding protection of rolled steel.

Principles underlying detailed recommendations.

112. We must now discuss in detail the application to individual products of the scales of duties recommended in the last Chapter. Our proposals in this part of the report are concerned only with rolled steel in the form in which it is manufactured by the Tata Iron and Steel Company. We reserve for separate consideration the claims of industries using rolled steel and the effect of our proposals on these industries. In considering the detailed application of the duties now recommended we are guided by two principles to which we have referred in our earlier reports. First, that the protective duties should not be applied to steel which is not manufactured in India, nor to those forms of steel the manufacture of which in India does not at present justify protection. Secondly, that the scheme of protection should include those forms of iron or steel which though not manufactured in India might be used in substitution for protected classes of steel unless the duty was sufficiently high to make the substitution unremunerative. In our consideration of the application of the duties to individual products we have had the advantage of examining the Collector of Customs, Calcutta, who brought to our notice such difficulties in administration and classification as have been found to arise during the operation of the present protective duties. The detailed recommendations put forward in the following paragraphs are shown in the draft sections of the Tariff Schedule which are printed as Annexure B to this report.

Rails, heavy and light: and fishplates.

113. The rails to which the basic duty of Rs. 13 per ton should apply are railway rails weighing 30 lbs. and over per yard, as classified in the schedule* under "Railway track material." Rails under 30 lbs. per yard are rolled in bar mills and are very little used by railways, being mainly used by private consumers. The cost of production and the prices of light rails are similar to those of bars and we, therefore, propose that the duties should be the same. We accordingly recommend that, as in the present protective scheme, rails under 30 lbs. should bear the same duties as bars, namely, a basic duty of Rs. 26 and an additional duty of Rs. 11 per ton. Fishplates for rails 30 lbs. and over, are, under the existing scheme, subject to the same duty as the rails, but as we propose a different duty, *i.e.*, the revenue duty (at present 10 per cent.) or Rs. 6 per ton whichever is higher, they should now be entered separately in the schedule. Fishplates for rails under 30 lbs. should, on the other hand, bear the same duty as the rails under 30 lbs., that is to say, a basic duty of Rs. 26 and an additional duty of Rs. 11 per ton.

* The schedule referred to in this Chapter is the Tariff Schedule for the year 1926 and not the Statutory Schedule to the Indian Tariff Act, 1894.

Tramway rails and fishplates are at present admitted at duties of 10 per cent. *ad valorem*. It has been pointed out to us that entry under this description has been claimed for light rails of the kind intended to be protected. It is therefore desirable, in order to prevent evasion of the protective duty, that tramway rails should be defined as having grooved heads, and that only such rails and the fishplates adapted for them should be allowed to enter at the revenue duty. It has been suggested to us by the Collector of Customs, Calcutta, that all the items now classified as " Railway track material " under the general head " Steel " be transferred to the general head " Iron or Steel " as wrought iron articles of some of these kinds are sometimes imported for the same purposes as steel articles. We recommend that this change be made and that a similar change be made in respect of tramway material.

Structural sections.

114. Structural sections are at present classified under " Steel " in the schedule as "Angle and tee, all other sorts, and beam, channel, zed, troughplate, piling and other structural sections," the only sub-division being into "not fabricated" and "fabricated." No alteration is required in this classification except that " troughplate " should be altered to " trough " and that the words " sections not otherwise specified " be substituted for the words " structural sections." The duties we have proposed for structural sections (namely, Rs. 19 per ton basic duty and Rs. 11 per ton additional duty) should be applied to the " not fabricated " class under this entry. Our proposals for duties on fabricated sections are made in Chapter X. The significance of the words "all other sorts " in the description is that steel angle and tee, if galvanized, tinned or lead-coated, are entered separately in the schedule and are not subject to protective duties. Protection is not required against these kinds of sections, which are distinctly more expensive than those with which we are dealing, and we propose no change.

Bar and rod.

115. The present protective duties on steel bars and rods affect only those kinds described as " common merchant, and bar and rod designed for the reinforcing of concrete." The experience of the last two years has shown that the interpretation of the phrase " common merchant bar " has not been free from doubt. It has been brought to our notice, for example, that bars made to comply with a particular specification may be regarded as not falling within the description " common merchant bars." It is, therefore, necessary to avoid the use of the phrase " common merchant " and to define more precisely the kind of bar and rod to be protected, and also to exclude those kinds for which protection is not required. We recommend that the following be substituted for the entry quoted at the beginning of this paragraph:—

" Bars and rods of kinds or qualities other than alloy, crucible, shear, blister or tub steel if having, after being normalised, a Brinell hardness number not exceeding 200 and

if of the following shapes:—rounds not under $\frac{1}{2}$ inch diameter; squares not under $\frac{1}{2}$ inch side; flats other than those which are either (*a*) under 1 inch wide and not over $\frac{1}{8}$ inch thick, or (*b*) not under 8 inches wide and not over $\frac{1}{2}$ inch thick; ovals if the dimension of the major axis is less than twice that of the minor axis; shapes designed for the reinforcing of concrete if the smallest dimension is not under $\frac{1}{2}$ inch."

Such bars should be subject to a basic duty of Rs. 26 per ton and an additional duty of Rs. 11 per ton. Our reasons for the exemptions indicated in the above entry are that these kinds of bars and rods are either not made in India or are made on too small a scale to justify protection or that their protection would raise the cost of certain essential articles, for example, alloy steel bars for cutting tools, without corresponding advantage to the Indian Steel industry. No change is required in the treatment of bars and rods at present classified as " planished or polished including bright steel shafting " and as " galvanized or coated with other metals." The remaining item at present in the schedule, *viz.*, " all other sorts not otherwise specified " should still be retained. As a consequence of the definition of the protected bars, the words " if not specified under the item 'bars and rods' " should be added to the description of the existing item " steel for springs and cutting tools."

Plates.

116. Plates are at present classified in the schedule under the main head " Iron or Steel." The duties in this part of the schedule thus apply not only to steel and wrought iron, but also to cast iron plates. No protection is required against these latter as they are not likely to be used to any appreciable extent in substitution for steel plates. It should, therefore, be made clear that none of the protective duties apply to cast iron plates. The only other change in classification which we propose is that chequered plates, which now form a separate item, should be included among the protected kinds, as chequered plates do not cost substantially more than plain plates and might be used in substitution if the duty remained at 10 per cent. on a low tariff valuation as at present. We propose, therefore, that a new item " cast iron " should be inserted in the schedule, the duty being that applicable under the revenue tariff, that the item " chequered " be omitted and that the item to which the protective duties, namely, basic duty Rs. 20 per ton and additional duty Rs. 16 per ton, are to apply, be amended to read " ship, tank, bridge and common including chequered, not fabricated and cuttings of such plates." The duty on plate cuttings was, as a result of our First Report, made protective at a rate of Rs. 5 per ton lower than the rate on ordinary protected plates, but we now find that entry is being claimed under the lower duty for cuttings of such sizes that they might reasonably be regarded as ordinary plates. In the absence of any satisfactory definition of the term " cuttings," the Customs Department experiences difficulty in classification; in order to prevent evasion of the

protective duties we recommend the inclusion of cuttings with the plates to which the full duties should apply.

Black sheets.

117. Iron and steel sheets not fabricated under $\frac{1}{8}$ inch thick, other than galvanized, are at present classified in the schedule as (*a*) "black, whether corrugated or flat," (*b*) "cuttings" (black), (*c*) "annealed which have been either cold rolled, smoothed (including planished), pickled or cleaned by acid or other material or process," and (*d*) "other sorts including cuttings," protective duties being applied only to (*a*) and (*b*). The definition of (*c*) appears to have given rise to considerable difficulty of interpretation by the Customs authorities and since we are proposing an increase of the duty on protected sheets, it is possible that the non-protected sheets described in (*c*) might be used in substitution for the kinds of sheet which should be protected. We therefore recommend that definition (*c*) be omitted from the schedule and that the protective duties be applied to the sheets at present classified under this head. The only kinds of sheet which should remain outside the scope of the protective duties are those which are coated with metals other than zinc. Such coated sheets and cuttings thereof should be subject to the revenue duty only. Cuttings of protected sheets are at present subject to a protective duty of 15 per cent. which was regarded as the equivalent of the specific duty on protected sheets. On the same grounds as those which we have stated in connection with plate cuttings we now recommend that sheet cuttings be subject to the specific protective duties. The only entries required (other than for galvanized sheets and cuttings) in accordance with our recommendations would be sheets "coated with metals other than zinc, and cuttings of such sheets," the duty to be the revenue duty, and "all other sorts including cuttings not otherwise specified," the duties to be Rs. 35 per ton basic, and Rs. 24 per ton additional.

Galvanized sheets.

118. Galvanized sheets, not fabricated, are at present described as "galvanized sheets whether corrugated or flat" and are subject to a protective duty of Rs. 45 per ton. Galvanized sheets are, however, imported in shapes other than corrugated or flat, *e.g.*, roof-ridging. In view of the extent to which the Indian output of galvanized sheet must be raised and of the lowering of the duty, we recommend that the protective duty be applied to "galvanized sheets, all kinds and shapes produced by rolling or pressing, including cuttings of such sheets," and that the duty be Rs. 38 per ton if the duty on spelter is retained and Rs. 30 per ton if it is removed. Our reason for recommending that galvanized sheet cuttings be subjected to the same specific duty as the sheets is the same as that which we have given for the similar recommendation in respect of other cuttings.

Discs and circles.

119. Under the main head "Iron or steel" in the Tariff schedule is an entry "discs and circles." These articles, when cut from plates or sheets of the kinds to which the protective duties apply, are subject to the same duties as the material from which they are cut. Although the

Tata Iron and Steel Company informed us that it does not intend to continue the manufacture of circles, the exemption of these articles from protective duties would probably reduce the demand for plates and sheets made in India from which such circles are cut. We, therefore, recommend that the same duties be imposed on discs and circles as on the kinds of plates and sheets from which they are cut. The item " not galvanized " will need sub-division owing to the proposed difference between the duty on plates and that on sheets.

Steel sleepers.

120. We have recommended that steel sleepers be subject to a protective duty of Rs. 10 per ton. Keys and distance pieces for these sleepers should be subject to the same rate of duty. If " Railway track material " is put under the head " Iron or Steel " it will be necessary to introduce a fresh item for cast iron sleepers, the duty to be the ordinary revenue duty.

Wrought Iron.

121. In paragraphs 117—119 of our First Report we explained the possibility of the substitution of wrought iron for steel bars, angles, channels and tees if the duties on the former were much lower than those on steel, and we recommended that the duties on the common qualities of wrought iron should be raised. We still consider such a measure necessary if our proposals for protection are to be effective. Wrought iron bars of common quality were subjected to a specific duty of Rs. 35 per ton, *i.e.*, Rs. 5 per ton less than on steel bars. We are informed by the Collector of Customs, Calcutta, that the difference between the duties on wrought iron and those on steel has caused difficulty in administration, entry being frequently claimed for steel at the rates applicable to iron. We recommend, therefore, that the duties on " protected " wrought iron be made the same as those on protected steel. Common wrought iron bars, of the shapes described in paragraph 115 above as those to which the protective duties on steel bars should apply, should therefore be subject to a basic duty of Rs. 26 per ton and an additional duty of Rs. 11 per ton. Wrought iron angles, channels and tees not of crown or superior qualities and not coated with other metals are at present subject to a specific duty of Rs. 20 per ton, *i.e.*, Rs. 10 less than that on steel sections. For the reasons given above, we think that this difference should not be retained, and we therefore recommend that unfabricated wrought iron angles, channels and tees not of crown or superior qualities and not coated with other metals be subject to a basic duty of Rs. 19 per ton and an additional duty of Rs. 11 per ton. No changes are required in the other items entered in the schedule under the main head " Iron."

CHAPTER VIII.

Representation of the Tata Iron and Steel Company.

Steel Company's claims.

122. Although throughout the course of our enquiry we have constantly borne in mind the claims set forth by the Tata Iron and Steel Company in its application for enhanced protection, it has not been possible to consider each point in the representation separately without unduly interrupting the thread of our argument. At the same time, the discrepancy between the claims of the Company and the duties recommended by us is so great that we think it advisable to indicate the main reasons for the differences between the two estimates as to the amount of protection required. The Steel Company claims that it should receive an average of Rs. 155 per ton for its finished steel during the period of protection and that increased duties should be imposed, which, together with a bounty of Rs. 20 per ton on rails during the earlier years, would be sufficient to secure this result. We compare our recommendations with the Company's claims in the table below:—

TABLE XXVII.

	STEEL COMPANY'S PROPOSALS.				BOARD'S PROPOSALS.		
	Proposed price.	Present duty.	Increase in duty.	Total duty.	Fair average price.	Basic duty.	Additional duty.
	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	140	14	40	54 +20 bounty.	118	13	...
Heavy structural sections.	160	30	25	55	120	19	11
Light structural sections.	165	30	24	54			
Bars	160	40	25	65	129	26	11
Plates	160	30	25	55	133	20	16
Black sheets . .	225	30	60	90	183	35	24
Galvanized sheets .	325	45	40	85	278	38* 30**	...
Sleepers . . .	140	14	40	54 +20 bounty.	115	10	...

Basis of Company's claims.

123. At the outset, we consider it necessary to point out that the effect on costs of the Greater Extensions has manifested itself very rapidly in the current

* If the duty on spelter is retained.
** If the duty on spelter is removed.

year. The Company's estimate was framed early in the year, while we have had before us the figures of costs and of output for the later months. We have thus been enabled to frame an estimate of future costs with much greater accuracy than would have been possible on the information available at the time when the Company prepared its representation. We have already set forth in full the reasons for our recommendations and it remains, therefore, to indicate briefly the grounds on which the Company's application for enhanced protection was based and the reasons why we consider that its claim has not been substantiated. It will be convenient to examine the application under two main heads, *viz.*, works costs and the provision for overhead charges and profit.

Works costs.

124. The Company has estimated the future average works costs of finished steel at Rs. 100 per ton with the plant remaining as at present. But in calculating the duties required a works cost of Rs. 103·76 has been assumed.* This figure represents the Company's estimate of the works costs which will be attained in 1927-28. A consideration of the cost sheets for 1926-27 clearly shows that the Company's estimate has been framed on over-cautious lines; for example, the average costs for August were Rs. 5 per ton lower than the figure assumed by the Company. Moreover the production in 1927-28 is likely to exceed the 390,000 tons on which the Company bases the proposed duty. But apart from inaccuracies of this nature, the method adopted by the Company is clearly defective. The additions and extensions to the existing plant, to which reference has been made in Chapter III, will begin to come into operation about the end of the year 1927-28 and the Company's estimate of the duties required ignores the increase in production and the economy anticipated from these improvements. Nor has allowance been made for economy in fuel, labour, stores and supplies, though in the course of the enquiry the Company's representatives admitted that the savings suggested by us under these heads were practicable.

Overhead charges and profit.

125. The Company has estimated the charges on account of overhead and profit at Rs. 55 per ton in place of the figure of Rs. 57·37 per ton taken in our first report and Rs. 39 per ton as now proposed. There are two assumptions underlying the Company's calculations, *viz.*, (1) that the replacement value of the Company's fixed assets is not below that made by us at our first enquiry, namely, Rs. 15 crores, and (2) that the output of the Company on which the overhead and profit have to be realized will be about 420,000 tons. As regards the first assumption, we have already given our reasons for assessing the replacement value of the Company's fixed assets at Rs. 12½ crores, and as for the second assumption, it is sufficient to point out that even the Company's first estimate of production places the total output in 1933-34 at 560,000 tons, while the average

* Paragraphs 30—32 of representation.

over the seven years 1927-28 to 1933-34 on the same estimate amounts to 486,000 tons.

Differences mainly the result of divergence in policy.

126. These are the main reasons for the wide divergence between the duties claimed by the Company and those recommended by us. Among less important reasons, reference may be made to the fact that some of the import prices assumed by the Company are lower than those taken by us. On the other hand, our estimate of the protection required has been somewhat raised by adjustments on account of internal freights and the production of defective materials and cuttings, which the Company has not taken into consideration. It will be seen that the Company bases its claim not merely on different figures from those which we have adopted, but also on a different view of the policy to be followed. The Company estimates the amount of protection required on the basis of figures of costs and production early in 1926, and claims that it should receive in addition all profits resulting from increased production or economies in the future. On this view the question of future costs becomes of less importance and it is perhaps for this reason that in the Company's representation, the subject has not received the attention which it deserves. But this is a view which we cannot accept; in estimating the price at which the Indian manufacturer may reasonably be expected to sell his steel, it is essential that account should be taken of the probable reductions in the cost of manufacture. In the course of the oral examination, we have explained our views in this respect and have received all possible assistance from the Company's representatives in estimating the probable costs of steel manufacture during the next seven years. Our estimates of costs and production are based largely on the figures supplied from time to time by the Company's representatives and an examination of the evidence will show that our conclusions on the most important points have already been accepted by the Company.

Adequacy of Board's proposals.

127. We believe that the scheme now proposed will, on the average, confer adequate protection on the industry during a period of seven years commencing from the 1st April, 1927, provided that the Steel Company carries out its programme of development, attains the expected output, and secures the economies which we have indicated in Chapter III. These are results which, we believe, it is within the power of the Company to attain. We estimate that the total surplus over the works costs required to meet the overhead charges and profit, is Rs. 194·4 lakhs per annum, but this is an average for the whole period of protection, and it is clearly necessary that the scheme should afford sufficient protection during the initial years, when the works costs are higher and the output smaller than the average. We have, therefore, paid particular attention to the probable financial results of the scheme during the early years. There are two circumstances which would justify the expectations of somewhat higher profits at the commencement of the period than the probable output and costs

would indicate, *viz.*, the probability of lower coal prices than we have assumed as the average and the fact that the amount of pig iron available for sale will be larger in the first half of the period since less will be required for the manufacture of steel. It seems to us undesirable to publish a definite estimate of the profits, but we have satisfied ourselves that the receipts will be sufficient to cover the works costs and the overhead charges (including a sufficient allotment to depreciation to meet the expenditure on the development scheme) and to leave a substantial margin for return on capital.

Period of protection.

128. While the Tata Iron and Steel Company has stated that it expects to be able to dispense with protection at the end of seven years, it has suggested that protection should be granted for ten years to ensure the stability and expansion of the industry. Although we are confident that the industry will ultimately be able to dispense with protection, the time within which this result can be achieved must depend on economic causes which cannot be foreseen. Any estimate of the figures necessary for a valid conclusion on this point must in the nature of the case present insuperable difficulties and it is inadvisable, therefore, to attempt to determine any period at the end of which protection should be entirely discontinued. We have already in Chapter III given reasons for our recommendation that the present proposals should remain in force for seven years. In suggesting a period of seven years, we do not imply that the industry would necessarily be able to dispense with protection at the end of that time. But the adoption of any longer period as a basis of calculation would, in our opinion, result in an ill-balanced scheme which would give the industry more protection at one stage and less at another than it requires. We recommend, therefore, that it should be declared that the policy of protection will be maintained until the findings of a Statutory Enquiry accepted by the Legislature show that it is no longer required. It should further be provided that no such enquiry shall be held until the year 1933-34.

Steel Company's proposal for anti-dumping legislation.

129. The Steel Company's proposal for the introduction of "Anti-dumping" legislation does not require any detailed discussion. The claim is partly based on the statement that the price of English rails offered in India has been below that at which similar rails have been sold to English railways. But, in accordance with ordinary business practice, export prices of rails and other kinds of steel even before the war were lower than the home prices and we have discounted this feature of the European steel market by basing our proposals on export prices. Further, the effect of the depreciation of Continental exchanges on import prices has been met by our proposal of additional duties on steel of non-British origin. The objects which the Steel Company has in view will, therefore, be attained without the enactment of a special anti-dumping measure. In any case, as we have already pointed out in Chapter VI, we believe that, under the existing commercial treaties, the proposal, in the form in which it has been presented to us, is not practicable.

130. In our first enquiry, the Agricultural Implements Company asked for protection for the manufacture of picks, powrahs, kodalies and similar tools. Implements of this kind were at that time subject to the import duty of 15 per cent. *ad valorem* applicable to hardware, and were not treated as agricultural implements, which are not subject to any duty. We considered that a case for protection had been made out and we recommended that the import duties on these articles should be raised from 15 to 25 per cent. *ad valorem*. The Legislative Assembly, however, did not accept the proposals and no protection was granted. In the interval the Implements Company has been acquired by the Tata Iron and Steel Company and the manufacture of tools is now conducted as a department of the Jamshedpur works. In its application for continuance of protection to the Steel industry, the Company included a request that protection should be extended to the manufacture of these tools. We pointed out, however, the objection which had weighed with the Assembly, *viz.*, that the grant of protection might adversely affect the agricultural community, and the Steel Company withdrew this part of its application. We have, accordingly, no recommendations to make as regards these implements.

Withdrawal of claims for protection on tools.

131. There are other matters in the Steel Company's representation to which it appears necessary to refer. Serious allegations are made with reference to the purchase of rails against some of the Company-worked railways. We quote the following extract from enclosure No. 8 to the written representation:—

Complaints regarding purchase of rails by certain railways.

> "We do not think, however, that the industry in this country has been treated fairly by the railways concerned in connection with these orders. It seems obvious that our quotations have from time to time merely been used by them in order to obtain lower prices in England from English manufacturers. Simultaneous tenders have not been called for nor have the railways concerned made any effort to assist us in this matter. On the contrary, on the expiry of these contracts, from which they derived such great benefit, they and their Consulting Engineers have, so far as we can see, done everything possible to divert these orders to England and to prevent our obtaining them. For the first time we have had serious complaints as to the quality of our rails and we are informed that the latest specification issued by the Consulting Engineers, Messrs. Rendel, Palmer and Tritton, definitely states that rails made by the Basic Bessemer process will not be considered. The only object of this is to exclude rails of Indian manufacture as the Basic Bessemer process is not used in England. It is useless for us to complain of these matters to the railways concerned. The influence of the Consulting Engineers and the Home Board is such that we cannot counteract it, but we do urge that if the industry in this country is to

succeed and if protection is to be of value to it, this tendency of the Indian railways to avoid the purchase of Indian material should be checked and the only way it can be checked, so far as we can see, is by the imposition of a substantial duty."

These allegations imputing bad faith to certain Railway Companies called for the closest scrutiny. We, therefore, supplied all the railways concerned with copies of the Steel Company's representation, and asked for their views on the points raised. We also examined the representatives of the Steel Company on this subject on more than one occasion. The allegation that the specification for rails was changed for the purpose of excluding Indian rails, was dropped at an early stage in the oral examination but the other statements have not been withdrawn. We consider it a matter of very great regret that a company of the standing of the Tata Iron and Steel Company should put forward in a public enquiry charges of so grave a nature which it is unable to substantiate fully. In the oral examination it was brought out that the specification referred to would not exclude Indian rails from use on the railways concerned, while it was also ascertained that Indian rails had in fact been accepted. We have received no evidence to suggest that complaints as to the quality of Indian rails were intended as a pretext for refusing to purchase from the Tata Iron and Steel Company. As regards the supply of rails to railways in the south of India and Burma, the Steel Company stands at a disadvantage as compared with its foreign competitors on account of railway freight and in our proposals we have made adjustments to compensate for this. We believe this to be the reason why the group of railways against which this complaint is made found it possible to obtain rails from England at lower rates than those quoted by the Steel Company. Nor have we been able to discover any foundation for the allegation that the Steel Company's quotations were used to obtain lower quotations from British manufacturers. The assertion that simultaneous tenders were not called for conveys an entirely misleading impression. Before any tenders were obtained from elsewhere, the Steel Company was asked to state the lowest price at which it was prepared to supply, and it was only when the railways found that the price quoted was higher than that at which rails could be imported that they decided to call for tenders in Europe. The Steel Company was given an opportunity of quoting again on this call for tenders. So far as the Burma Railways were concerned, the date for opening the tenders was fixed after consulting the Tata Iron and Steel Company's representative in London with the special object of giving the Company an opportunity to quote and the order was lost purely on the question of price.

Allegation regarding loss of bounty on rails.

132. It has been further alleged that since a bounty of Rs. 20 per ton is granted on rails of Indian manufacture, the loss of these orders has resulted in the Company being penalized to the extent

of Rs. 8 lakhs. It has been ascertained, however, that with the present output of steel ingots, any further production of rails in excess of that for which orders have been received could only be effected if the output of other classes of finished steel were correspondingly reduced. The Company has obtained orders for 143,000 tons of rails and additional orders may still be received; it appears probable that no more rails than would be required to meet these orders could be manufactured without exceeding the Company's capacity for production in the current year or reducing its output of other products.

Allegation in respect of other steel.

133. The Company also complains that the designs of railway bridges and other structures are such that a comparatively small proportion of sections of Indian manufacture can be used in their construction. It is alleged that "It is impossible to avoid the conclusion that in many cases the designers have gone out of their way to design structures which cannot be made from steel made in India. This is particularly noticeable in the case of designs prepared by the North Western Railway. Whoever designed the Jhelum Bridge must have been determined to give Indian steel no chance." The North Western Railway has denied that there is any foundation for any charge of deliberate exclusion of Indian steel, and after our examination of the Steel Company's representatives we are satisfied that there is no justification for such a charge.

Importance of purchase of Indian steel by railways.

134. Though we must record our disapproval of the manner in which the Steel Company has thought fit to raise these issues, there is at the same time an aspect of the case which deserves serious attention. The success of the policy of protection will largely depend upon the co-operation which the Government receives from railways, the largest purchasers of steel in India, and it is of the utmost importance that they should offer every possible encouragement to the use of Indian material. As we have emphasized in a previous Chapter, it is essential that the railways should arrange to purchase the whole of their requirements of rails in India so far as they can be produced in the country. The disposal of structural sections at present is of less importance, since the Steel Company has no difficulty in selling the whole of its output. The position will, however, change rapidly. The expansion of the industry will be largely affected by its ability to dispose of an increasing output of structural material and within a few years this question will constitute a serious problem. It is therefore important that the railways should now undertake the revision of their designs for bridges, buildings and other works so as to facilitate the use of a larger proportion of Indian structural sections in the future.

CHAPTER IX.

Miscellaneous.

Responsibilities of the Company.

135. In the previous Chapter we dealt with the claim of the Tata Iron and Steel Company for the continuance of protection. But it is obvious that the acceptance of assistance from Government carries with it certain responsibilities. The country is entitled to demand some guarantee that an industry of national importance established partly at the expense of the public revenues, should be prudently and efficiently managed, and that its future should not be endangered by any unwise dissipation of its resources. Further, the Company's policy in regard to such matters as the welfare of the labour force should be in accordance with the best modern industrial practice and the progressive development of the industry should be accompanied by an increased employment of Indians on the superior staff.

Depreciation.

136. We regard it as of the utmost importance that the Company's works should be maintained in a high state of efficiency and that the plant and equipment should be kept abreast of modern progress. It is with this end in view that we have allowed in our calculation of the fair selling price a substantial sum on account of depreciation. While we believe that the policy of the present Directors of the Company is in general accord with our views, we can conceive of circumstances in which shareholders might be tempted to subordinate the future welfare of the industry to immediate gain. For this reason we think that the scheme of protection might well be accompanied by an obligatory provision that a sufficient sum by way of depreciation should be set aside annually and that the depreciation fund should be expended only for the purposes for which it is intended. In the course of the oral examination the Company's views on this suggestion were invited and we were informed at a later stage* of the enquiry that the proposal had been put before the Board of Directors and that they had accepted it.

Labour conditions at Jamshedpur.

137. Throughout our enquiry we have kept in mind the importance of securing satisfactory labour conditions in the industry. With this object in view we have inspected both the works and the town of Jamshedpur and we are satisfied that the arrangements made by the Company in this respect are not merely adequate but compare very favourably with those of other industries in India. With regard to the water supply, drainage, sanitation, hospitals and dispensaries, open spaces and general amenities, conditions at Jamshedpur are of a higher standard than is general in industrial areas in India. The housing accommodation provided by the Com-

* Oral evidence, dated 11th August 1926.

pany is excellent in design and construction, but the number of houses is admittedly not sufficient to accommodate all the workmen satisfactorily. The Company's plans for extensive house-building had to be suspended in 1922 when the acute financial depression set in. The Company's financial position has not improved sufficiently in the interval to enable the building of houses to be resumed, but its representatives assured us in the course of the evidence that building would be recommenced on a substantial scale at the earliest opportunity. We have no doubt that during the next few years the shortage of houses will be made good. The Tata Iron and Steel Company, unlike other industrial enterprises in India, has succeeded in settling a fairly stable labour population in close proximity to the works, and this we believe in part to be the result of the great attention which has been paid to the welfare of the workmen. In this connection it is interesting to note that from the commencement of operations in 1912, the Company has always followed the policy of an eight hour day, although at that time the system had not been generally accepted in the Steel industry in any country in Europe or America.

Appointment of Indians to higher technical posts at Jamshedpur.

138. In regard to the superior staff, the Tata Iron and Steel Company has consistently followed a policy of replacing Europeans and Americans by qualified Indians. The progress made in the last three years is shown by a comparison of the numbers of covenanted employees (*i.e.*, Europeans and Americans) employed at various periods during the last four years. The total number in September, 1924, when the covenanted staff was at its maximum, was 229 which by June, 1926, had fallen to 161, a reduction of approximately 30 per cent. Technical knowledge of a kind special to iron and steel works is required in the producing departments, namely, the coke ovens, blast furnaces, steel making departments and rolling mills. For several years now no covenanted employees have been employed at the coke ovens. At the blast furnaces, open hearth department and old rolling mills which are the older portions of the plant, the number has fallen from 64 in 1923-24 to 47 in 1925-26. The new parts of the plant, namely, the duplex plant and the new mills (excluding the sheet mills), have hardly been in operation long enough for any substantial reduction in covenanted labour to be effected; the number employed in 1924-25—the first year of full working—was 49, and in 1925-26 was 47. There has thus been a reduction of 17 in the covenanted staff in the older portions of the plant and of 2 in the newer portions. Of the 19 places which thus became vacant, 15 were filled by Indians and 4 were nett reductions. In the sheet mills, where special difficulties have been experienced, 66 Europeans were employed when the work first started towards the end of 1924. By June 1926 this number had been decreased to 22, most of the posts having been taken over by Indians. It will appear, therefore, that, although since 1923-24 the output of finished steel has more than doubled, India is rapidly becoming less dependent on imported labour in the manufacture of steel.

Technical Institute.

139. The training of Indians for employment in the more technical and responsible work has been facilitated by the establishment of the Technical Institute in connection with the Company's works at Jamshedpur. During the five years ending 1925, altogether 114 men were admitted into the Institute. Of this number, 58 are still under training while 25 have received employment under contract with the Company. The bulk of the admissions so far have been made from Bihar and Orissa and from the adjacent province of Bengal, but a considerable number have also been admitted from outlying provinces such as Madras and the Punjab. It is noteworthy that the admissions have not been entirely restricted to future employees of the Company and the Institute is thus serving to some extent as a general centre of practical training in metallurgy. A feature of the Institute deserving of notice is its close association with the steel works at Jamshedpur which renders its training of special value. We have received evidence in the course of our enquiry of the satisfactory level of efficiency attained by the Indian employees who have been trained in the Institute, and we believe that the reputation they are building up will accelerate the substitution of Indian for imported labour in the higher ranks of the industry.

Management and future policy.

140. If our estimates of future works costs are to be realized, it will be necessary for the Company to pursue a very active policy in the matter of raising the general level of efficiency and economy in the works. Our confidence that these estimates will be realized is strengthened by the fact that the Directors have now definitely adopted a policy of this kind and expect in consequence to effect a considerable reduction in costs. The task of erecting the Greater Extensions and of bringing into successful operation so much plant and machinery of kinds previously untried at Jamshedpur, has almost exclusively occupied the attention of the management during the past few years. They are now in a better position to take in hand the question of promoting the general efficiency of the works and of reducing costs still further and we are satisfied that every effort is being made to handle this question successfully. There is one aspect of the matter, however, to which we think it necessary to call attention. We have observed that, in judging the results obtained at Jamshedpur, the Company is usually guided by the standards prevailing in the Steel industry in America. This attitude may perhaps be explained by the striking expansion which has occurred in recent years in the manufacture of steel in the United States, and although the tendency is less marked now than at the time we held our first enquiry, we still think it advisable to point out that in the case of the Indian industry American results do not form necessarily the best basis for comparison. The competition which the Indian industry has to meet comes from Europe and not from America, and one of the objects which the Indian industry must keep in view is its ultimate ability to dispense with protection against European competition. The

American Steel industry is protected by a tariff higher than that in force in most European countries, and its costs of manufacture are also generally higher. It will, therefore, be more conducive to the interests of the Company if its own results are judged by comparison with European costs and if steps are taken to keep in closer touch with the practice and developments in the European Steel industry.

Future of the Steel industry in India.

141. Our report would not be complete without some reference to the future of the Steel industry in India. In our first report, we have set forth at length the natural advantages which the Indian industry enjoys and which justify confidence in its ultimate success. The quantity of iron ore in India is known to be very large and the quality compares favourably with that of deposits in other parts of the world. Coking coal, though not so good as that available in other steel making countries, is still comparatively cheap, manganese is available in large quantities in the Central Provinces, while the proximity of the coal fields to the iron ore deposits reduces the freight on raw materials. Since 1923-24 great progress has been made in the production of pig iron and the cost has fallen from Rs. 36 per ton to approximately Rs. 25 per ton. Although in the same period there has been a corresponding reduction in costs in European countries, the Indian Steel industry has still a great advantage over other countries in the cost of producing pig iron. With these initial advantages it is not unreasonable to expect that, in course of time, steel will be produced in India at least as cheaply as in other countries. Great progress has already been made and it is probable that if the rupee prices of imported steel remained at the 1923 level, the industry would now require little or no protection. The figures in the following table show that (allowing for freight to India) the Indian industry in a comparatively short period has almost reached the stage of steel manufacture which prevailed in Great Britain as recently as 1923.

TABLE XXVIII.

	C.I.F. LANDED PRICE WITHOUT DUTY, 1923.		Adjusted selling price required. 1927 to 1934.
	British.	Continental.	
	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	140	...	118
Beams	150	120	120
Bars	150	124	129
Plates	153	136	133
Galvanized sheet	300	...	278

Probable position of Steel industry in 1933-34.

142. We have already stated our view that no definite period can be fixed at the end of which it may be anticipated that the Steel industry will be able to dispense with protection. But as an indication of the progress which may be expected in the Steel industry, we think it worth while to compare the fair selling price in 1933-34 with the c.i.f. landed prices of imported steel which we have taken as the basis of our present scheme. The works costs for that year have already been indicated in Table X, paragraph 58; but the allotment per ton for overhead charges and profit will be smaller than the average which we have taken for the seven year period, since the total sum required (Rs. 194·4 lakhs) will be distributed over the estimated production of 1933-34 (600,000 tons) instead of over the average production (500,000 tons). The average incidence per ton will, therefore, fall from Rs. 39 to Rs. 32·4. Following the same method of allocation as that already adopted, we arrive at the figures for each product as shown below:—

TABLE XXIX.

	Output.	Works cost.	Overhead and profit.	Fair selling price f.o.r. works.
	Tons.	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	210,000	61·6	32·4	94
Fishplates	8,000	90	39	129
Structural sections	95,000	69·1	32·9	102
Bars	100,000	77	33	110
Plates	35,000	80·3	37·7	114
Tinbar	60,000	55·4	19·6	75
Black sheets	15,000	122	35	157
Galvanized sheets	47,000	200	43	243
Sleepers	30,000	72	30	102

Adjustments must, however, be made in the f.o.r. works fair selling prices on account of the lower works prices received for second class materials and cuttings and the effect of internal freight. The adjustments are the same as those previously made except that

Re. 1 per ton more is allowed on account of internal freight disadvantage since, with increased production, sales must be effected at greater distances. The resulting prices are shown in the following table together with the c.i.f. landed prices of imported steel as set out in Table XVII, paragraph 87:—

TABLE XXX.

	Fair selling price.	C.I.F. PRICES LANDED WITHOUT DUTY.	
		British.	Continental.
	Rs. per ton.	Rs. per ton.	Rs. per ton.
Rails	103	105	...
Fishplates	138	150	...
Structural sections	103	104	86
Bars	111	108	90
Plates	114	115	92
Tinbar	75	...	...
Black sheets	156	153	122
Galvanized sheets	239	240	...
Sleepers	108	...	105

The above table shows that if the prices of European steel in 1933-34 should be at about the level of those of the early part of 1926, the Indian industry would be able to meet British competition without the assistance of even a revenue duty, although some protection would still be needed against Continental competition.

Further grounds for confidence.

143. The figures which we have given indicate a great advance in the Steel industry in India during the next seven years and a rapid decrease in the costs of manufacture. But it must not be assumed that, at the end of the seven year period of protection, the costs of production of steel in India will have reached their final level. Some increase in output from the improved plant of the Tata Iron and Steel Company will still be possible. Further economies of the kinds to which we have already referred may also be expected and, in particular, a further reduction in the consumption of coal per ton of finished steel should be effected. In our opinion, therefore, there is good ground for confidence in the future of the Indian Steel industry and provided that a progressive policy is followed and full advantage is taken of the experience in other steel making countries, we believe there is no reason why India should not obtain results which will compare favourably with those obtained in other parts of the world.

Proposals adequate for new firm.

144. In our First Report regarding the grant of protection to the Steel industry, we indicated the difficulty created by the fact that there was only one firm in India, namely the Tata Iron and Steel Company, manufacturing rolled steel. In this respect the position has remained unchanged, and our study of the actual costs in India has still been confined to the operations at Jamshedpur. But we have not overlooked the fact that, even with the extensions and improvements now contemplated, the maximum production of the Tata Iron and Steel Company will still fall short of the demand for steel in India. The total import of steel in 1925-26 was approximately 950,000 tons while the production of the Tata Iron and Steel Company was 320,000 tons giving a total of about a million and a quarter tons. With the extension of the railway system and the general development of transport facilities, some increase in the consumption of steel may be anticipated and though by the year 1933-34 the annual production of the Tata Iron and Steel Company will have increased to 600,000 tons of finished steel, there will still remain a large demand which must be met either by imported material or by the expansion of the industry. In a basic industry of great national importance it is obviously desirable that so far as possible India should be self-supporting and we should consider that our scheme of protection had failed in one of its principal objects if, though meeting the requirements of the Tata Iron and Steel Company, it did not provide for the expansion and development of the industry. We have, therefore, considered how far our proposals will suffice for the protection of any new works which may be established. We believe that provided modern plant is installed and full advantage is taken of the accumulated experience of steel making in India as well as in other countries, a new works should be able, as soon as a reasonable level of output has been reached, to produce steel at a cost not exceeding our estimate of the Tata Iron and Steel Company's average costs. In estimating the charges for overhead and profit, we have based our figures on the capital cost of erecting a steel works at the present time and our proposals should therefore be generally suitable for a new undertaking. The representatives of the Indian Iron and Steel Company and the United Steel Corporation of Asia, both of which firms have considered plans for erecting steel works in India, have stated in the course of their oral evidence that a system of protection which would be adequate for the Tata Iron and Steel Company would be sufficient for any new works. We believe, therefore, that so far as the scale of duties is concerned, our recommendations are adequate both for the existing Company and for any new works which may be started. We think, however, that this in itself is not sufficient to secure the expansion of the industry. The uncertainty and depression in the steel trade have been so great in recent years that it is doubtful whether new capital will be forthcoming for investment in the industry unless the public is assured by a clear statement in the legislative enactment that protection will be continued so long as the circumstances, not merely of the pioneer Company but of the industry as a whole, indicate that such a course is necessary.

CHAPTER X.

Fabricated Steel.

Summary of previous recommendations.

145. Before considering the present position of the Engineering industry, it appears desirable to summarise briefly the previous recommendations of the Board and the action taken thereon. In the course of our first enquiry, we found that the fair selling price of structural steel fabricated in India was Rs. 310 per ton and that imported fabricated steel was likely to enter India without duty at Rs. 250 per ton. The difference between these two figures was found to be the measure of the protection required and a duty of 25 per cent. *ad valorem* was accordingly recommended. Government accepted these proposals and under the Steel Industry (Protection) Act, XIV of 1924, a duty of 25 per cent. *ad valorem* was imposed on imported fabricated steel. In the Board's report of the 8th November, 1924, supplementary duties were proposed, consequent on the recommendation of increased protection for rolled steel, but these proposals were not accepted by Government. As a result of the enquiry into the Steel Industry held in 1925, the Board again advised an increase in the duties: it was proposed that the duty on tipping wagons, coal tubs and light railway switches and crossings should be raised to 40 per cent. *ad valorem* and on other fabricated steel to 32½ per cent. *ad valorem*. Government, however, considered that the position of the Engineering industry did not justify any increase in the amount of protection and no supplementary duties were imposed. The protective duty on imported fabricated steel has, therefore, remained unchanged at 25 per cent. *ad valorem* since June, 1924.

Manufacture and fabrication of steel closely connected.

146. It was explained in paragraph 120, page 68, of the Board's First Report on the grant of protection to the Steel industry that the manufacture and fabrication of steel were inseparably connected, that the market for the sale of certain kinds of steel made in India depended on the existence of the Engineering industry, and that it was, therefore, unnecessary to discuss the question whether it fulfilled the conditions for protection laid down by the Fiscal Commission. There has been no change in the position of the industry in the last three years such as would lead us to modify the opinion then expressed. It is true that, at present, the output of structural sections forms a small part of the total steel production in India and is in fact much smaller than is required to meet the demand of Indian engineering firms; but this is a temporary phase only. The production of steel ingots by the Tata Iron and Steel Company will rapidly increase when the new Duplex furnace is erected, and the installation of a roughing mill will enable the Company to roll a large proportion of the additional steel into structural

sections. It is clear, therefore, that, in the comparatively near future, the demand from engineering firms will be an important factor in the sale of Indian rolled steel. The claim for protection of the Engineering industry has already been admitted and further examination of the question is consequently unnecessary.

Effect of scheme of protection on Engineering industry.

147. We have experienced considerable difficulty in gauging the effect of the present scheme of protection on the manufacture of fabricated steel. It is obvious that no large expansion in production or decrease in costs (other than the cost of material), such as has occurred in the rolled steel industry, was possible. The Engineering industry has been established for many years and no rapid improvement in practice or process could be expected. Nor is it possible, on a consideration of the profit and loss statement of the companies concerned, to judge of progress made; for, in addition to the manufacture of fabricated steel, many of them undertake foundry work, others the manufacture of railway wagons, while at least one company owns large works for the manufacture of firebricks and pottery, and there are no means of determining from the published reports of the companies the source from which the profits are derived. We have explained in our previous reports the reasons why in this industry no exact estimate of the costs of production is possible and why we cannot measure with any precision the financial results of protection by a comparison of the cost of production with the selling price.

Applications received.

148. We have received applications from the following firms, *viz.*, Messrs. Jessop and Company, Limited, Messrs. Richardson and Cruddas, Messrs. Burn and Company, Limited, and Messrs. Parry's Engineering Company, Limited, claiming additional protection on fabricated steel. The first three applications deal in the main with fabricated structural steel such as is required for bridgework, buildings, tanks, chimneys, switches and crossings. The last application is in respect of the protection required for coal tubs, tipping wagons and light railway switches and crossings. It will be convenient to consider the first three applications together and to postpone consideration of Messrs. Parry and Company's application to a later stage. All three applications proceed on much the same lines; two arguments are put forward:—

(1) That the actual price at which British fabricated steel can be imported even with a 25 per cent. duty makes it impossible for the Indian product to compete and that orders, which should go to Indian firms, are placed with firms abroad.

(2) That the industry is in a worse position now than it was when protection was first granted.

Messrs. Burn and Company propose a specific duty of Rs. 72-8-0 per ton on imported fabricated steel, while Messrs. Jessop and Company

suggest that a duty of 25 per cent. *ad valorem* be imposed and that structural steel bars, shapes and plates should be imported duty free. Both these proposals would mean a substantial increase in the existing duty. It is obvious that these representations would require modification as a consequence of the duties which we have proposed on rolled steel and the consequent reduction in the price of British Standard steel which is mainly used by the Engineering industry. It will be convenient, therefore, to commence our enquiry by an examination of the price at which fabricated steel can be landed and of the cost of producing such steel in India, on the assumption that our recommendations in regard to the rolled steel industry are accepted. Having determined provisionally the measure of protection on a comparison of these figures, we shall consider the arguments set forth by the applicants for protection, with a view to ascertaining whether there are any features in the present position of the industry which necessitate a modification of our proposals.

The price at which fabricated steel enters India.

149. In the course of our last enquiry in 1925, we were furnished with three examples of the c.i.f. price at which imported bridgework entered India, *viz.*, Rs. 220 a ton in November, 1924, Rs. 212 a ton in January, 1925, and Rs. 229 a ton in February, 1925. We have now received from Messrs. Burn and Company and Messrs. Jessop and Company, details of two orders recently placed in England for bridge spans. The first is an order placed for 53 spans of 94 ft. 6 in. We have ascertained from the North Western Railway that the price at which these girders were landed was Rs. 289 per ton including the duty. It is, however, necessary to point out that there is a wide discrepancy between the figures supplied by the railway authorities and those which we have obtained from the Chief Controller of Stores through whom the order was placed in England. The matter is of some importance to the Engineering industry and we have discussed the case in Annexure A. But for our present purpose the case is of little value. For it is clear that a price regarding which any doubt exists cannot be safely accepted as a basis for our recommendations. Moreover, it is probable that the landed duty-paid price of these girders is higher than the average for imported fabricated steel and that the work is heavier than is normally undertaken by Indian firms. It is safer to take as typical a second order for 48 spans of 60 ft. girders for the Madras and Southern Mahratta Railway placed in Europe early in 1926 the details of which have been supplied by Messrs. Jessop and Company and confirmed by the Railway Company. The f.o.b. price at which this contract was placed was £13-8-0 per ton. We have obtained from the railway authorities the details of freight, landing charges, etc., and duty, and with the addition of these charges the total landed cost per ton amounts to Rs. 212 without duty. In view of the fall in steel prices which has occurred since 1924-25, this figure appears consistent with the prices furnished to us in the course of our last enquiry and we take this price as typical of the price at which bridgework of the kind they manufacture can be imported into India.

Cost of producing fabricated steel.

150. In the applications for increased protection which we have received from Messrs. Jessop and Company and Messrs. Burn and Company, the cost* of producing fabricated steel in India is stated as follows:—

	Rs. per ton.
Messrs. Jessop and Company	253
Messrs. Burn and Company	258

Messrs. Jessop and Company's figures in detail are as follows:—

	Rs. per ton of fabricated steel.
Material 1·1 ton (including 10 per cent. wastage) .	110
Duty on 1·1 ton	33
Fabrication	110
.	253

In estimating the cost of fabricated steel in India for the present scheme, there are three items which we must take into account, *viz.*, the duties on rolled steel, the c.i.f. price of imported steel, and the cost of fabrication. The duties now applicable will be those which we have recommended to be imposed on British standard steel, while the cost of material must be determined by the probable level of prices at which we have estimated that British steel of the kinds used, *viz.*, mainly structural sections and plates, can be landed in India during the period of protection. In our previous reports, we have set forth at length the reason why it is impossible to frame a detailed estimate of the cost of fabrication and in particular of the overhead charges. We have received no detailed figures from firms other than the two already mentioned and we have no alternative but to frame our estimate on a consideration of the costs supplied by them. On the whole, we think that Messrs. Jessop and Company's estimate which provides for a reduction of Rs. 7 in the cost of fabrication, as compared with the figure taken by us in our first report, is not unreasonable; the fabrication cost includes profit at 5 per cent. on the value of output but very little depreciation. We think that we shall be justified in treating Rs. 110 per ton as the representative cost of fabrication in present conditions. Messrs. Jessop and Company's representative stated that if the present output were doubled, there would be a reduction in costs of about Rs. 20 per ton. In view of the fact that our proposals cover a period of seven years, some allowance on this account would appear to be necessary. We find, however, that the Engineering firms actually receive for bridgework a price about Rs. 6 per ton† lower than the

* In this chapter "the cost of producing fabricated steel" includes overhead charges and a reasonable allowance for profit and is equivalent to the fair selling price.

† See Table XXXI.

price of similar imported material, the difference being presumably due chiefly to railway freight disadvantage in the more distant markets. This disadvantage may reasonably be set off against any probable further reduction in the cost of fabrication. We are now in a position to summarize our estimate of the fair selling price of Indian fabricated steel. The figures are as follows:—

	Rs. per ton of fabricated steel.
Material, 1·1 ton (including 10 per cent. for wastage) . .	117·4
Duty on 1·1 ton	21·2
Fabrication	110
	248·6

We have assumed, as in our 1925 report, that structural sections and plates will be used in fabrication in the proportion of three to one. The prices taken for these materials are the landed prices without duty shown in Table XVIII, paragraph 89; when taken in these proportions the average cost per ton of material used is Rs. 106·75. The average basic duty per ton of material in the same proportions is Rs. 19·25.

Provisional conclusion as to duty required.

151. We think these figures comparable with the figures we have adopted as the average prices of imported bridgework. In his oral evidence Messrs. Jessop and Company's representative stated that while the present prices and the present duties on rolled steel apply the figure Rs. 253 might be taken as the fair selling price of bridgework such as 40-foot girders. The figure of Rs. 212 without duty which we have taken as typical of the cost of imported bridgework is based on a consideration of the cost of importing 60-foot girders. An examination of Messrs. Jessop and Company's list of orders for the last three years indicates, however, that there is practically no difference in the selling price per ton between 40-foot girders and 60-foot girders. It appears safe, therefore, to assume that the fair selling price of fabricated steel of the kind with which we are dealing will be about Rs. 248 per ton as shown in our estimate in the last paragraph. The cost of the imported fabricated steel has been found to be Rs. 212 per ton without duty. We therefore conclude provisionally that the duty required is approximately Rs. 36 which amounts to an *ad valorem* duty of 17 per cent.

Allegation that Indian firms cannot compete with foreign material at present duty.

152. We now turn to consider the arguments set forth by the engineering firms in their applications. It is alleged that the price at which British fabricated steel can be imported even with a 25 per cent. duty makes it impossible for the

Indian product to compete and that orders which should go to Indian firms are placed abroad. We have received practically no evidence in support of this view. Of the four cases, cited by Messrs. Burn and Company, of contracts lost to the Indian engineering firms two are orders placed by railways in the south of India. But, owing to the freight charges which must be paid by Calcutta firms tendering for contracts with the railways in the south of India or Burma, cases must occasionally occur in which orders are placed abroad and it does not, therefore, appear that the fact that two orders were placed in England by the railways in South India is of any special significance. The third case is the contract for 53 spans of 94 ft. 6 in. placed by the North Western Railway to which we have already referred. Messrs. Burn and Company tendered for this contract but could not guarantee delivery of the first two girders for six months or complete the order under two years and seven months. It is therefore probable that this order was lost to Indian manufacturers not purely on the question of price. There remains only an order for the construction of paint and upholstery shops at Pahartali placed by the Assam Bengal Railway Company, and we feel that this is insufficient evidence to justify any general conclusion that the present amount of protection is insufficient. In the current year (1926) orders in connection with the construction of the Vizagapatam harbour have been placed with Messrs. Jessop and Company, while both this firm and Messrs. Burn and Company have also competed with success for railway orders in Burma and Madras. Thus the statement that under the present scale of duty the Indian manufacturers cannot compete with imported fabricated steel does not appear to us to be established.

Import of fabricated steel.

153. Nor does an examination of the figures relating to the import of fabricated steel lend any support to the contention that the Indian industry is affected severely by competition from abroad. We have ascertained from the Trade Returns that the total amount of fabricated steel imported into India in 1925-26 under the heads " beams, channels, pillars, girders, bridgework " and " plates and sheets " was 18,097 tons. The outturn of fabricated steel from Messrs. Burn and Company's and Jessop and Company's shops in 1925-26 amounted to 17,349 tons. This, however, is but a small fraction of the steel fabricated in India. We find that the total amount of unfabricated protected structural sections and plates produced in or imported into India in 1925-26 was about 230,000 tons and a considerable proportion of this is converted in this country into some form of fabricated steel. The Indian Engineering Association includes about 40 engineering firms in its membership and even though the output of all is not on the same scale as that of Messrs. Burn and Company and Messrs. Jessop and Company, the total production must be large. Further, in Government and railway workshops also steel is fabricated on a considerable scale. We have not had an opportunity of examining the orders placed abroad by the various railways in such detail as to enable us to determine the total amount of such orders or whether any considerable propor-

tion of them could have been entrusted to firms in India, but it has been admitted by the engineering firms in evidence that some of the requirements of India in respect of fabricated steel cannot be met by Indian engineering firms at present. It would not, therefore, appear that an import of 18,000 tons is excessive or is any indication that the scheme of protection has failed. Messrs. Burn and Company have drawn attention to the fact that in the current year there has been some increase in the amount of fabricated steel imported. On an examination of the Trade Returns we find that in the first six months of 1926-27 there has been an increase of about 2,800 tons in the import of fabricated beams, channels, pillars, girders, bridgework, plates and black sheets, over the figures for the same period in 1925-26. This increase, however, need occasion no alarm. The import of fabricated steel depends largely on the number of large engineering works which are under construction and must necessarily vary considerably from year to year. Moreover in the same two periods, notwithstanding the steady increase in the output of Indian rolled steel, the imports of steel have increased from about 380,000 tons to about 460,000 tons and the same reason which accounts for the general increase in the import of rolled steel, *viz.*, increased general consumption, may also account for the increase in the import of fabricated steel. No evidence has been received that the increase in imports has resulted in fewer orders for Indian firms; on the contrary the orders received by Messrs. Burn and Company in the first quarter of the year 1926-27 show some increase over the corresponding figure for the year 1925-26. We believe that the number of cases in which Indian engineering firms have been deprived of orders by European competition are comparatively few. It has been stated by the Indian Stores Department that no orders for fabricated steel with which the Department has had to deal have recently been lost to Indian manufacturers, and we have no reason to suppose that the number of orders secured by them would be substantially increased by enhanced protection. It is true that none of the firms which have applied for enhanced protection are working up to their full output; this, however, is due rather to the general increase in producing capacity of engineering firms in India which occurred during and after the war than to increased European competition. We look for a steady improvement in their business as the Railway programme of construction develops.

Comparison of selling price in 1924 and 1926 with cost of production of bridgework in the same years.

154. The facts relating to the present state of the fabricated steel industry can best be ascertained by a comparison of the selling prices in the last half of 1924 with the selling prices for the first six months of 1926 and relating them to the costs of production so far as they can be ascertained for the same period. At our request, Messrs. Jessop and Company have supplied us with a summary of all orders booked by them from the beginning of 1924. Our reports throughout have been based on bridgework and we shall confine our comparison to this class of product. It will be convenient at this stage to consider only railway bridgework

which appears to respond readily to both internal and external competition. The comparison is given below in tabular form:—

TABLE XXXI.

1924-25.	Order.	Price per ton.	1926.	Order.	Price per ton.
		Rs.			Rs.
18th December, 1924	60′ spans	320	22nd May, 1926	60′ spans	260
6th January, 1925	60′ „	320	8th April, 1926	40′ „	260
26th January, 1925	60′ „	300	18th June, 1926	40′ „	260
6th November, 1924	40′ „	280			
18th December, 1924	40′ „	300			
Average		304	....	..	260

The average reduction in price is therefore Rs. 44 per ton. In our first report in 1924, we took the cost of production of fabricated steel as Rs. 310 and this was accepted by the engineering trade; Messrs. Jessop and Company have given the figure of Rs. 253 per ton as the present cost of production. While, therefore, selling prices have fallen by Rs. 44 per ton, costs of production have fallen by Rs. 57 per ton; in other words, the engineering firms are better off by Rs. 13 per ton than in 1924. The figures given in this table also show that on an average the engineering firms realize about Rs. 6 below the fair selling price which the duty is intended to secure to them. We have already referred to this matter and have taken into account the lower price obtained in determining the future fair selling price.

Recommendations.

155. We have now examined the reasons which have been advanced for an increase in the protective duties and we consider that there is nothing in the present position of the engineering industry which necessitates any modification of our provisional conclusion in paragraph 151. We accordingly recommend a basic duty of 17 per cent. *ad valorem* on fabricated steel in place of the present duty of 25 per cent. The amount of protection recommended to the fabricated steel industry in our first report was Rs. 62* per ton of which Rs. 33 was to compensate for the duty on the unfabricated steel and Rs. 29 per ton was substantive protection. We have now found that Rs. 36 per ton is required, of which Rs. 21·2 is compensatory protection and Rs. 14·8 substantive protection. There is thus a fall of Rs. 14·2 per ton in the substantive protection recommended as compared with our previous proposals. The reduction is accounted for by the fact that the price of imported fabricated steel has not fallen in the same

* The amount strictly necessary was Rs. 60, but a margin of Rs. 2 was allowed.

proportion as the Indian costs. If the 1923 price of imported material (Rs. 250 per ton) had fallen in the proportion of 310 to 248 (the Indian fair selling price in 1923, and under our present proposals respectively) the import price would be only Rs. 200 per ton, *i.e.*, Rs. 12 per ton lower than the actual price. This accounts for nearly the whole reduction of Rs. 14·2 per ton in the substantive protection; the remaining Rs. 2·2 per ton is practically equal to the allowance of an extra Rs. 2 per ton in our first scheme. The evidence which we have received indicates that the imports of fabricated steel are almost entirely from the United Kingdom. We cannot, however, overlook the fact that if no additional duties are imposed on Continental fabricated steel, the protection which we have proposed for the Indian Steel industry may be rendered ineffective. For it is obvious that ordinary rolled steel manufactured on the Continent might with slight manipulation be passed as fabricated steel if the duty were only 17 per cent. We accordingly propose that on steel which is not fabricated in the United Kingdom from British rolled steel, an additional duty of Rs. 13 per ton be imposed, which should be variable by the Government after examination of the course of prices.

Coal tubs, tipping wagons, etc.

156. We see no reason to treat the coal tubs, tipping wagons and light switches which are dealt with in Messrs. Parry's application differently from the other forms of fabricated steel which we have already discussed in this Chapter. Restriction of demand appears to us to be the main trouble from which this industry is suffering at present; with an improvement in the coal trade and an increase in railway construction, irrigation and similar works, the greater demand for this class of product should enable the cost of production to be substantially lowered. In the course of our enquiry in 1925, it was stated in evidence that the cost of fabrication is steadily going down but it will be observed from the table below that the reduction in price is covered almost entirely by the reduction in cost of steel.

TABLE XXXII.

	1924.	1926.	Reduction.
	Rs.	Rs.	Rs.
Tipping wagons . Average selling price of Parry's wagon . .	149	133	16
Tipping wagons . Cost of steel per wagon .	60	45	15
Coal tubs . Average selling price of Parry's coal tub .	133	117	18
Coal tubs . Approximate cost of steel per tub . . .	51	32	19
Average selling price of imported wagon .	120	106	14
,, ,, ,, tub .	110	95	15

There is, therefore, no reason to suppose that present prices are pitched at an unduly low level. We consider that the reduction in the number of orders received by Messrs. Parry and Company up to the end of 1925 is probably due to the depressed state of the coal trade and to temporary slackness in construction work. This view is confirmed by the Trade Returns. Messrs. Parry give the number of tipping wagons sold in the first half of 1925 as 419 which in the second half of that year fell to 167. We find under the heading "Carriages and carts not mechanically propelled, protected (excluding railway carriages, trucks, etc.)" in the Trade Returns that whereas in the first half of the calendar year 1925, 393 such vehicles (which include coal tubs as well as tipping wagons) were imported, the number in the second half had fallen to 266. We have received no evidence that the financial results of this industry are so unsatisfactory as to justify more favourable treatment than we have proposed for other fabricated steel. The additional duties which we propose on imports from countries other than Great Britain are, in our opinion, sufficient to safeguard this industry against Continental competition.

We set forth the effect of our proposals on the duties of each imported article:—

TABLE XXXIII.

——	Duty at 17 per cent. *ad valorem*.	Additional duty at Rs. 13 per ton.	Total duty proposed	Present duty 25 per cent. *ad valorem*.
	Rs.	Rs.	Rs.	Rs.
Tipping wagons . . .	12·2	4·2	16·4	18
Coal tubs	10·9	4·0	14·9	16

Since the costs of production of each article will be somewhat lowered by the reduction which we have proposed in the duties on rolled steel, the ability of the Indian manufacturer of coal tubs and tipping wagons to meet Continental competition will remain practically unchanged. Similarly, we believe that the duty we have proposed for fabricated steel will afford sufficient protection to the manufacture of switches and crossings for light railways.

Points and crossings for medium and heavy rails.

157. Messrs. Burn and Company have drawn our attention to the fact that it has been proposed to standardise the design for points and crossings for rails above 30 lbs. and that in consequence they have installed a modern plant for more economical production. They apply therefore for protection of these products on the scale approved for other fabricated steel. We see no reason to differentiate between points and crossings for heavy rails and other forms of fabricated steel and we, therefore, recommend that the same duty be applied.

Shipbuilding.

158. In their resolution No. 221-T (2), dated 14th August, 1926, on the subject of the grant of protection to the Shipbuilding industry, the Government of India accepted the finding of the Tariff Board that the duty on ships and other vessels for inland and harbour navigation when imported in parts should be 10 per cent. *ad valorem* subject to a minimum of Rs. 35 per ton. They pointed out, however, that this minimum rate may require modification as a result of the present statutory enquiry into the Steel Industry. At the time when our report on the Shipbuilding industry was written, the protective duty on structural sections and plates was Rs. 30 per ton. We have now proposed basic duties of Rs. 19 and Rs. 20 per ton respectively. The duties on the material used in shipbuilding have therefore been reduced by approximately one third and it follows therefore that the minimum compensatory protection should also be decreased in the same proportion from Rs. 35 per ton to Rs. 23 per ton. We believe that fabricated steel parts for ships are not imported on any scale from the Continent. We think, however, that as a precautionary measure, the additional duties which we have proposed on Continental structural sections and plates should also be imposed on fabricated steel parts for ships imported elsewhere than from Great Britain. As the material used in the construction of ships is mainly plates, on which we have proposed an additional duty of Rs. 16 per ton, the additional duty on fabricated steel parts of ships imported from elsewhere than Great Britain should, after allowing for wastage in fabrication, be Rs. 17 per ton.

Spikes and tie bars.

159. Spikes and tie bars still require to be dealt with. We recommend that the principle embodied in the present protective scheme should be adhered to, namely, that these articles should be subject to the same duties as bars. The basic duty would thus be Rs. 26 per ton and the additional duty Rs. 11 per ton.

Necessity of a minimum duty.

160. We have already referred to the fact that evasion of the protective duties on rolled steel may sometimes be effected by some slight machining resulting in the classification of such steel as fabricated. Further, it is clear that if the duty on the rolled steel out of which the fabricated articles are manufactured, is greater than a 17 per cent. duty on the value of such steel, the Indian manufacturer might, if the extent of the fabrication is small, be at a disadvantage as compared with the foreign manufacturer to the extent of the difference between the two duties. We therefore propose that the *ad valorem* basic duty should be subject to a minimum calculated on the duty for rolled steel.

Summary.

161. For convenience we set forth our recommendations in tabular form, the items being listed in the order in which they occur in the Tariff Schedule. The minimum basic duties and the additional duties on such articles as fabricated sections, as distinct from structures, correspond with

the duties proposed for rolled steel with an allowance of 10 per cent. for wastage.

TABLE XXXIV.

Names of Articles.	Basic duty.		Additional duty Rs per ton.
	Ad valorem per cent.	With a minimum of Rs. per ton.	
Conveyances.			
Coal tubs and tipping wagons	17	22	13
Iron.			
Angle, channel and tee, fabricated	17	21	12
Steel.			
Angle and tee, all other sorts, and beams, etc., fabricated	17	21	12
Railway track material—			
Spikes and tie bars	..	Specific 26	11
Switches, crossings, etc.—			
(*a*) for rails 30 lbs. and over per yard	17	14	..
(*b*) for rails under 30 lbs. per yard	17	29	12
Structures	17	22	13
Iron or Steel.			
Pipes and tubes, etc., if riveted or otherwise built up of—			
(*a*) plates	17	22	18
(*b*) Galvanized sheets	17	42	..
(*c*) Other sheets	17	39	26
Plates; all kinds, fabricated	17	22	18
Sheets, fabricated—			
(*a*) Galvanized	17	42	..
(*b*) Not galvanized or coated with other metals	17	39	26

CHAPTER XI.

Legislation.

Basic and additional duties.

162. Fresh legislation will be required to give effect to our proposals and it is desirable to explain in some detail the objects which the legislative enactment should be designed to secure. Our scheme contemplates the imposition of two sets of duties, one of which we have described as basic and the other as additional. The former will be applicable to all steel from whatever country imported and the latter only to imported steel of non-British origin. For reasons which we have already explained in paragraph 108 we propose that the basic duties should remain in force during the whole period covered by our scheme and should not be liable to alteration. The legislation should provide that these duties are definitely fixed. On the other hand, owing to the uncertainty of future prices of Continental steel, the additional duties should be liable to variation during the protective period, and though in the first instance they should also be fixed by the Legislature, the Governor General in Council should be vested with the power to vary them in either direction on a consideration of variations in the price of non-British steel. Our proposal, therefore, differs from the present scheme in that whereas under section 2 (1) of the Steel Industry (Protection) Act of 1924 power is conferred to raise the duty on steel imported from all sources or from any particular country or countries, it is now recommended that the Governor General in Council should be empowered not only to raise but also to lower the additional duties on non-British steel, should circumstances justify such a course. It will also be necessary to empower the Governor General in Council to impose additional duties on those kinds of steel which under our proposals are only liable to basic duties—as for example galvanized sheet—should circumstances so change as to lead to any considerable import of these articles from elsewhere than Great Britain at prices lower than those on which our proposals are based. Though we do not contemplate that the additional duties should be varied to meet slight or temporary changes in the price of Continental material, it appears to us important that when circumstances indicate that a change in duty is required, there should be no unnecessary delay in arriving at a decision or in giving effect to it. For this reason we consider that no formal or public enquiry should be held before an additional duty is varied. Nor should it be necessary to secure fresh legislative sanction for any variation proposed. The normal course of trade will be less affected if the necessity and extent of changes in the additional duties are determined on an examination of the course of import prices, without any formal or public enquiry of the kind undertaken under the present scheme. Our experience of the working of the scheme has shown that the

evidence as to prices is ample, easily secured and reliable. The Tata Iron and Steel Company and the large importing houses in the principal ports have throughout our enquiries willingly supplied us with correct information every month and we have no doubt that they would be equally ready to supply it to the Government if required to do so. The Customs authorities are also in close touch with foreign prices. The trade journals quote export prices which furnish a basis of comparison with the information gathered in India. With such evidence at the disposal of Government, we foresee no difficulty in the adoption of prompt and effective action to meet the requirements of the situation from time to time.

Possibility of evasion of duty.

163. It is clearly necessary that legislation should be so framed as to eliminate the possibility of evasion of the additional duties by shipping Continental steel from British ports. As we have already pointed out, the closer approximation of the price of British Standard steel to that of Continental steel which has recently occurred, renders it improbable that this method of evasion would be attempted except perhaps in the case of plates and black sheets. We think, therefore, that it should be provided that the additional duties should be imposed on steel of non-British origin and that power should be taken by the Governor General in Council to prescribe the conditions in which steel shall be deemed to be of British origin for the purpose of this Act. Among the conditions which may be laid down it is suggested that for the reasons indicated in paragraph 104 steel shall be deemed to be of British origin when the whole of the rolling and finishing processes from the stage of bloom, billet or sheet bar have been carried out in Great Britain or in the case of fabricated steel, when such steel is used for fabrication. It is also suggested that all steel shipped from a port other than a British port should be presumed to be of non-British origin unless the contrary is proved.

Continuation of the policy of protection.

164. The present Steel Industry (Protection) Act sanctions the imposition of duties on imported steel and the grant of bounties on Indian steel for a period of three years. Although the acceptance of the policy of protection as regards the Indian Steel industry is declared in the preamble to the Act and provision is made in section 6 for an enquiry into the necessity for the continuance of protection after March, 1927, the duties and bounties, as provided under the Act, terminate automatically at the end of three years. There is no definite statement in the Act that the protection will be continued, if necessary, at the expiry of this period and from the evidence which we have received it is clear that the public is not convinced that such is Government's intention. We have already stated our view that the object of protection will not be fully attained unless India becomes self supporting in regard to those kinds of steel which experience shows can be manufactured in this country; as we have explained in the previous chapter this will not be possible so long as fresh capital is not attracted to the industry

and there is but one steel works in the country. It is, therefore, a matter of great importance that, so far as possible, the public should be reassured as to the future of Indian Steel industry by the form of the legislative enactment. We think that no period should be fixed at the end of which the duties now proposed should terminate. The Act should provide that the basic duties should remain in force until they have been reduced, increased, or otherwise modified, after a statutory enquiry held not earlier than the year 1933-34. At the same time, both the preamble and the operative part of the Act should be so worded as to leave no room for doubt that assistance will be extended to the industry even after the expiry of the seven year period, if the conditions are such as to justify such a course.

Compulsory depreciation.

165. The future of the Steel industry largely depends on the formation of a reserve sufficient not only to provide against the depreciation of the existing plant but also to enable the most modern machinery to be installed. In order to ensure that adequate sums are set aside for depreciation and that the funds so provided are not diverted to other objects, power should be taken to frame rules prescribing the amount which should be set aside from time to time and the manner in which such amount may be expended. Although no immediate exercise of the power may be necessary, it appears to us expedient for Government to arm itself with such power to be exercised should occasion arise.

Necessity of considering the proposals as a whole.

166. In concluding this report we desire to emphasize the interdependence of the several duties which we have recommended and that, although our proposals cover a variety of products, it is impossible to separate each proposal and confine attention to it alone. The figures of works costs and the distribution of the overhead charges and profit, which to a large extent govern the amount of protection required, presuppose an approximate allocation of output between the various classes of finished steel. This allocation is determined on a consideration of economy in working arrangements and of the market for the various classes of finished product. It is obvious, therefore, that a change in any one duty so considerable as to necessitate a material re-distribution of output, might have the effect of seriously disturbing the calculations on which other duties are based. For example any reduction of duty on galvanized sheet which would curtail the output might well raise the works costs of black sheets from which galvanized sheets are produced. Further, the rolled steel industry is a basic industry, and it naturally follows that any change in the proposed duties on rolled steel will affect the proposals for other industries also. We can best illustrate our meaning by referring to the connection between the engineering industries and the rolled steel industry. We have assumed that under our proposals the Tata Iron and Steel Company will be able to manufacture and sell at a reasonable profit, certain quantities of structural sections, ordinarily used by

the engineering industries. If the protective duties on those sections were raised, a corresponding increase would be required in the duty on fabricated steel. On the other hand, if no protection were granted to the fabricated steel industry, the sale of structural sections might be so restricted as to compel the Steel Company to roll larger quantities of bars or other products, which could not be disposed of except at lower nett prices in the more distant markets. Thus it would be difficult to foresee the exact financial effect of any substantial change in the duties now proposed without a re-examination of the whole position, and we therefore suggest that, so far as may be found possible, our proposals may be considered not as separate recommendations as to the duty appropriate for each class of steel, but as a considered and connected scheme for the grant of protection to the Steel industry as a whole.

CHAPTER XII.

Summary.

Summary.

167. We summarize below our recommendations regarding rolled steel and fabricated steel. Our proposals in respect of the manufacture of tinplate are contained in Chapter XIX of Part II of this report.

(1) A review of the progress of the Steel industry during the past three years clearly shows the success of the policy of protection adopted in 1924. While the assistance given has been in no way excessive, it has substantially improved the position of the Indian Steel industry.

(2) The output of finished steel at Jamshedpur was about 163,000 tons in 1923-24. The output in 1926-27 will probably be about 380,000 tons. We estimate that the output in the next seven years will average 500,000 tons and that the output in 1933-34 will be 600,000 tons of finished steel.

(3) The costs of manufacture have fallen as the output of steel has risen and we expect the reduction of costs to continue. The average works cost of all finished steel was Rs. 126·5 per ton in 1923-24. Although the manufacture of the more expensive articles such as black sheet and galvanized sheet has commenced only since 1923-24, the average cost of all steel in August, 1926, was as low as Rs. 98·4 per ton and we anticipate that the average cost in 1933-34 will be only Rs. 78·8 per ton.

(4) An allowance of Rs. 39 per ton of finished steel will be adequate for overhead charges and fair profit for an average output of 500,000 tons during the next few years.

(5) If the rupee price of imported steel had remained at the 1923 level, little or no protection would be required. Prices of imported steel have, however, fallen substantially and unless protection is continued, it will not be possible to manufacture and sell Indian steel in competition with the imported product; the continuance of protection is, therefore, necessary.

(6) The payment of bounties should no longer form part of the scheme of protection.

(7) Competition in certain products comes almost entirely from the United Kingdom, and in others from the United Kingdom and the Continent. We regard it as probable that the prices of British steel in the future will be fairly stable, but the course of Continental prices cannot be foreseen. On economic grounds, therefore, it is advisable that two scales of duties be imposed, a basic duty fixed with reference to the price of British steel and an additional duty based on the margin between British and Continental prices,

allowance being made for the difference in quality between the two kinds of steel. The basic duty will be levied on steel coming from all countries while the additional duties will be confined to non-British steel.

(8) A double scale of duties will best serve the economic welfare of the country generally and lead to an equitable distribution of the burden over the different classes of consumers, and at the same time ensure the stability of the scheme of protection.

(9) We have considered the question of recommending 'anti-dumping' duties, and we are of the opinion that the imposition of such duties is impracticable.

(10) We believe that by 1933-34, the Indian industry should be able to meet British competition without the assistance of any protective or revenue duty, but that if Continental prices remain at their present level some measure of protection may still be required.

(11) While no time limit should be fixed for the continuance of the policy of protection, the basic duties should remain in force until increased, reduced, or otherwise modified after a statutory enquiry to be held not earlier than 1933-34.

(12) The additional duties may be reduced or raised during the period if the prices of non-British steel justify the change.

(13) The scheme of protection is not only adequate for the existing firm but affords the necessary encouragement for the expansion of the industry, provided that the Act giving effect to the proposals makes it clear that protection will be continued so long as economic justification for it exists.

(14) The scales of duties recommended involve a distinctly smaller amount of protection than the existing scheme, and the price of steel in India should be lower than at any period since the great war.

(15) We are of the opinion that power should be taken by the Governor General in Council to ensure that proper provision for depreciation is made from time to time.

(16) The low level of duty proposed on rails is justifiable only if the Government arrange to purchase the whole of their requirements of rails in India so far as they can be produced in the country.

(17) It is essential in the interest of the Indian industry that railways should encourage the use of Indian structural steel by revising the designs for bridges and other structures so as to permit of the utilization of the maximum amount of steel manufactured in India.

(18) The conditions of employment of Indian labour at Jamshedpur are found to be satisfactory, and good progress is being made in the appointment of Indians to the higher technical posts.

(19) Partly as a result of the recommendations regarding the duties required on rolled steel, it is proposed that in place of the

present 25 per cent. *ad valorem* duty on fabricated steel, the basic duty should be 17 per cent. *ad valorem* and that an additional duty of Rs. 13 per ton should be imposed on fabricated steel imported from elsewhere than the United Kingdom.

Recommendations.

168. We recommend the imposition of the following duties† :—

Product.	Basic duty.	Additional duty.
	Rs. per ton.	Rs. per ton.
Rails 30 lbs. per yard and over	13	...
Fishplates for above	Revenue duty. (Minimum Rs. 6 per ton).	...
Structural sections (including wrought iron).	19	11
Bar and rod (including wrought iron) Spikes and tie bars, Rails under 30 lbs. per yard and fishplates for same.	26	11
Plates	20	16
Ordinary sheets	35	24
Galvanized sheets	38	...
Steel sleepers	10	...
Fabricated steel structures*	17 per cent. *ad valorem* (minimum Rs. 22 per ton).	13
Coal tubs and tipping wagons	Ditto.	13

* The minimum basic duty and the additional duty on fabricated steel of other kinds vary according to the duties on the kinds of rolled steel used.

† The proposed sections of the Tariff Schedule embodying the Board's recommendations in detail are shown in Annexure B.

Part II.—Tinplate.

CHAPTER XIII.

Introductory.

Introductory.

169. Under the provisions of the Steel Industry (Protection Act of 1924, protection was granted to the Tinplate industry in India by the imposition of a duty of Rs. 60 per ton upon all imported tinplate and on the 27th February, 1926, following an enquiry by the Tariff Board in the latter part of 1925, this duty was raised to Rs. 85 per ton. At the same time, the existing 15 per cent. *ad valorem* duty on imported tin was replaced by a specific duty of Rs. 250 per ton, the change resulting in a reduction of the duty by Rs. 305 per ton.

The Government Resolution.

170. Section 6 of the Act referred to above provided however that an enquiry should be held before the 31st of March, 1927, into the question whether the protection accorded to the Steel industry of which the Tinplate industry forms a part, should be continued, and in accordance with this section the Government of India ordered the re-examination of the position by the issue on the 3rd April, 1926, of the following resolution:—

> "The attention of the Tariff Board is drawn to the fact that the Steel Industry (Protection) Act, 1924, will expire on the 31st of March, 1927, and it is requested to re-examine the measure of protection afforded to the various articles covered by the Act and by Act VIII of 1926. It will report in respect of each class of article whether it is still necessary to continue protection, and, if so, whether the measure of protection now given should be increased or diminished or whether the form of the protection given should be altered. In making its recommendations, the Tariff Board will take all relevant considerations into account, including that stated in part (*b*) of the Resolution adopted by the Legislative Assembly on the 16th February, 1923, and if it thinks that in any case the assistance required can most suitably take the form of bounties, the source from which the money for the bounties can be obtained should be discussed. In dealing with the Tinplate Industry the Board will bear in mind its own observations* in

* The observations of the Board were as follows:—"It would be premature to express a confident opinion, when the manufacture has been carried on for only one year, as to the eventual ability of the industry to dispense with protection altogether but the success hitherto attained is sufficient to justify the hope that it will do so. It is satisfactory that tinplate of good quality was produced almost from the start, that six mills are now operating with practically the same covenanted staff, as were employed on two mills a year ago and that work was carried on practically continuously throughout the hot weather. In one or two years' time it should be possible to form a definite opinion on the subject, but meanwhile the prospects are sufficiently favourable to warrant some assistance from the State."

paragraph 31 of Chapter IV of the second portion of its First Report. The Board will also be at liberty to examine the claims for protection of industries making steel products which do not come within the scope of the present Act and to report whether, having regard to the principles laid down in paragraph 97 of the Report of the Indian Fiscal Commission, such claims should be admitted.

"2. Firms and persons interested in the Steel Industry or industries dependent on the use of steel, who desire that their views should be considered by the Tariff Board, should address their representations to the Secretary to the Board.

"3. The Government of India are specially anxious that the Tariff Board's report should be submitted not later than 15th October, 1926."

171. Following the issue of this Government Resolution the Board, on the 16th April, 1926, published the communiqué reproduced below, outlining the scope of the enquiry, enumerating the steel articles with which it would be concerned, and inviting the opinions of the firms or persons interested in the enquiry.

The Board's Communiqué.

"In the Resolution of the Government of India in the Commerce Department No. 260-T. (64), dated the 3rd April, 1926, the attention of the Tariff Board was drawn to the fact that section 6 of the Steel Industry (Protection) Act, 1924, provides that, before the 31st March, 1927, an enquiry shall be made as to the extent, if any, to which it is necessary to continue the protection of the Steel Industry and as to the duties and bounties which are necessary for the purpose of conferring such protection.

"2. The Board will proceed to examine this question. Persons or firms interested in the manufacture of the articles enumerated below who desire that the protection granted by the Act should be continued after 31st March, 1927, are requested to submit representations stating—

(1) the grounds on which they consider the continuance of protection necessary in respect of the articles in which they are interested;

(2) whether they consider that the measure of protection now given should be increased or diminished;

(3) whether any protection which may be found necessary should be given by means of protective duties or bounties.

The articles fall under the following heads:—

Rolled steel (including beams, angles, channels, plates, bars and rods, sheets black and galvanized, rails and fishplates).

Tinplates.

Wire and Wire Nails.

Fabricated steel.

Railway wagons and underframes.

"3. The general question of the fitness for protection of an industry making steel products, the claims of which to protection have already been admitted, will not be reopened. No further examination of this point will therefore be made, except to the extent to which it has been specifically reserved for further investigation by the Government of India or by the Board, *e.g.*, in the case of the Tinplate industry.

"4. The scope of the present enquiry is not necessarily limited to the articles enumerated in paragraph 2 and the Board are at liberty to examine any claims which may be put forward for the protection of industries making steel products which do not come within the scope of the present Acts and to report whether, having regard to the principles laid down in paragraph 97 of the Report of the Indian Fiscal Commission, such claims should be admitted. Any persons or firms interested in such industries who desire to claim protection for them are requested to submit to the Tariff Board a full statement of the grounds on which they do so. Their representations should, in addition to the particulars specified in paragraph 1, state clearly whether, and, if so, to what extent, the industries are considered to fulfil the conditions laid down by the Fiscal Commission in paragraph 97 of their Report.

"5. All applications must be addressed to the Secretary and reach the office of the Board at No. 1, Council House Street, Calcutta, not later than the 15th May. After their receipt, the Board will, if necessary, issue questionnaires. The applications, the questionnaires and the replies thereto will then be printed and published, and the written representations of those who wish to support or oppose the continuance or grant of protection will be invited. The dates for the oral examination of witnesses who wish to be orally examined will be subsequently fixed."

172. The Government of India further invited the attention of the Board to the following extract from a speech made in the Legislative Assembly by the Hon'ble the Member for Commerce:—

The scope of the enquiry.

> "As the House knows this matter of protection for the Tinplate industry will be investigated again by the Tariff Board this summer, and I may say quite publicly that when the Tariff Board do investigate that question, we propose definitely to instruct them also to investigate the question of capital invested in this company and to investigate the question whether that capital ought not to be written down. It is perfectly true that the Tinplate industry has had so far a striking technical success in India. I say without hesitation that that technical success has been quite remarkable. On the other hand I think there is grave reason to doubt whether it will ever be a sound and healthy industry in India unless the question of writing down the capital of the company is very carefully considered and we propose to direct the attention of the Tariff Board to that question."

It will appear therefore from the above extract, from the terms of reference and from the Board's Communiqué, that the scope of the present enquiry does not extend to a re-examination of the whole question of the protection of the Tinplate industry, but that the investigation is to be limited to the following points:—

(*i*) whether the protection granted to the industry should be continued and, if so, to what extent,

(*ii*) whether the industry will eventually be able to dispense with protection, and

(*iii*) whether the Tinplate Company of India, Limited, is overcapitalised and, if so, whether any reconstruction of its capital is necessary.

173. The Tinplate Company of India, Limited, submitted its formal representation to the Board, on the 5th May, 1926, asking for the continuance of the existing scale of protection. We visited the Company's works on two occasions and after a preliminary examination of the Company on the 21st June, 1926, the hearing of its evidence was completed on the 7th and 8th of July, 1926. The formal representation and the documentary evidence collected up to that date were published on the 14th July, 1926, accompanied by a Press Communiqué in which we invited representations, both written and oral, from any persons, who might wish to support or oppose the Tinplate Company's application. With the exception, however, of a request from the Imperial Tobacco Company of India, Limited, that any additional protective duties resulting

The Board's procedure.

from the grant of protection to the Tinplate industry in India might not be made applicable to tinplates of 70 lbs. basis weight, the Board's Communiqué evoked no response from firms in India. The only representation seriously opposing the grant of protection to the industry was one forwarded by the Welsh Plate and Sheet Manufacturers' Association which reached the Board on the 3rd May, 1926. Sir Edgar Jones, K.B.E., came to India on behalf of this Association and was examined by the Board on the 3rd and 4th August in Calcutta.

The agreement between the Tata Iron and Steel Company, Limited, and the Tinplate Company of India, Limited, concerning the supply of tinbar.

174. It is convenient at this stage to explain a difficulty, which might have prevented us from proceeding with this enquiry at all, and which may even now necessitate withholding the publication of this report. There is an agreement between the Tinplate Company of India and the Tata Iron and Steel Company for the purchase by the former and the supply by the latter, during a period of 25 years, of tinbar, the principal raw material from which tinplate is manufactured. We have explained in our first Report the main features of this agreement and its bearing on the position of the two Companies. The price of tinbar is an essential element of the works costs, but under the agreement it cannot be ascertained without intricate adjustments which depended on many uncertain factors, such as the price of tinbar in Great Britain on the one hand, and the cost of production of tinplate by the Tinplate Company on the other. The parties themselves have been unable to construe the provisions of this agreement and the construction of the agreement is, *inter alia*, the subject matter at the present moment of litigation in the Bombay High Court. If we had to construe it, in order to ascertain the price of the tinbar, we should, in view of the matter being *sub judice*, have been compelled to postpone our investigations until after the termination of the legal proceedings. It has not been necessary for us to adopt this course. Both the Companies have informed us that this agreement is to be rescinded, and a fresh agreement is to take its place by which, so far as the future is concerned, the price of tinbar is to be an ascertained figure, not liable to any adjustments, which we need take into account, or which are likely to have any material effect on our proposals. We have made it clear to both the Companies, and they have agreed, that our investigations are to proceed upon the assumption that this fresh agreement materializes and is given effect to before the publication of our Report.*

Arrangement of the Report.

175. In the main we have followed the arrangement adopted in our first Report of 1924 on the rolled steel industry. The report commences with a brief review of the progress made by the Tinplate industry in the past three years, and of the results of the introduction of the scheme of protection. In Chapter XV the

* This agreement has been concluded, *vide* letters from the two companies printed as Annexure E.

works costs of 1924 are compared with those of 1926, an attempt is made to indicate what further economies are possible in the future and after considering the probable future cost of production, the fair average works costs during the period of protection are fixed. The other elements in the fair selling price, *viz.*, depreciation, interest on working capital, head office charges, and manufacturer's profit are discussed in Chapter XVI and the question of the present value of the Tinplate Company's plant is considered at length. Chapter XVII deals with future c.i.f. prices and on a comparison with the fair selling price, the protective duties are suggested; the period of protection and the ability of the industry to dispense with protection are also discussed. The representation of the Welsh Plate and Sheet Manufacturers' Association opposing the continuance of protection is next considered. Finally our conclusions are summarized in Chapter XIX.

CHAPTER XIV.

Success of policy of protection: Review of Results.

Success of policy of protection.

176. The Tinplate industry affords a notable illustration of the industrial progress attainable within a comparatively short period under the policy of discriminating protection adopted by Government. The Tinplate Company of India commenced the manufacture of tinplate at the end of 1922, some eighteen months before the passing of the Steel Industry (Protection) Act, but it was not until the year 1924 that all the mills came into operation. Thereafter there has been a great improvement in the efficiency of the industry and particularly in the skill of the labour force, which under the training of Welsh instructors, has rapidly acquired a knowledge of the various processes in the making of tinplate.

Production.

177. When we visited the works in August, 1923, we were informed that the plant was designed for an output of 28,000 tons of tinplate. In 1923 the output was just over 9,000 tons; in 1924, the first year in which the complete plant was working, an output of 20,763 tons of tinplate was obtained; in the succeeding year this rose to 29,555 tons, while if the average for January to March, 1926, is maintained, the output will reach 35,000 tons. This is 7,000 tons in excess of the output for which the plant was designed, and is nearly four times the production of 1923.

Works costs per ton.

The works costs per ton of tinplate have fallen from Rs. 459 in 1924 to Rs. 313 in the first seven months of the current year. Part of this reduction must be ascribed to the fall in the price of tinbar, but if we exclude from consideration the nett cost of the tinbar and tin, the remaining costs have still fallen from Rs. 213 to Rs. 138 indicating a very great improvement in practice.

Labour.

Concurrently with this reduction in the cost of manufacture there has been a noticeable decrease in the number of European employees whose services were necessary at the commencement of operations in order to train Indian labour. In 1924, there were 84 European covenanted employees; the number declined to 71 in 1925, and at the present time 58 only are employed*. The improvement in the quality of Indian labour may be judged from the fact that, notwithstanding the reduction in the number of the European staff, Indian labour costs† per ton of tinplate had fallen from Rs. 58 in 1924 to Rs. 34 in the early months of the current year, while output per head had increased from 6·58 tons to 12·29 tons.*

We consider these results constitute a good record of progress and fully justify the measure of protection granted to the industry.

* *Vide* Statement XIV.
† *Vide* Statement XV.

Financial results to the Tinplate Company.

178. It must not be thought, however, that the financial results of tinplate manufacture have been equally successful. Undoubtedly the industry has been passing through critical times and though it has survived, and in our opinion, may anticipate with some confidence a fair measure of success in the near future, it has survived at a cost to the pioneer Company of considerable financial losses. According to the Company's balance sheets, the loss in 1923 was about Rs. 29 lakhs, in 1924 Rs. 33 lakhs (of which about Rs. 19 lakhs was probably incurred in the first half of the year and Rs. 14 lakhs in the latter half), and in 1925 the loss was Rs. 24·7 lakhs. Thus the total loss in three years was Rs. 87 lakhs of which about Rs. 48 lakhs was incurred in the eighteen months before the passing of the Steel Industry (Protection) Act and the balance of Rs. 39 lakhs in the succeeding eighteen months. It seems to us, however, that the figures obtained from the Company's balance sheets convey a somewhat erroneous impression; not only are they complicated by the intricate arrangements then in force between the Company and the Tata Iron and Steel Company, particularly in regard to the price of sheet bar, but also by the fact that depreciation is calculated throughout on the original block valuation. We have endeavoured therefore, to arrive at an independent estimate of the losses which the Company has incurred in the two periods. We have felt it necessary to take into account the failure to earn overhead charges, *viz.*, depreciation on block account and interest on working capital and head office charges, which represent an essential part of the cost of manufacture. For this purpose we have taken the value of the plant at what we consider to be a fair present day valuation, and we have allowed working capital on a three months' turnover of tinplate at the average works cost during the period. On these lines we have arrived at the conclusion that in the eighteen months preceding the introduction of the scheme of protection, the overhead charges were Rs. 10·2 lakhs and in the subsequent period extending to December 1925, they were Rs. 11·7 lakhs. For the same period we find the loss on works costs to be as follows:—

TABLE XXXV.

	Production.	Works Costs.	Realized price.	Loss per ton.	Total loss.
	Tons.	Rs.	Rs.	Rs.	Rs.
1923 . . .	9,071	576	431	145	13·15 lakhs.
January to June 1924	10,360	459	410	49	5·08 ,,
	19,431				18·23 ,,
July to December 1924.	10,400	459	410	49	5·1 ,,
1925 . . .	29,555	381	.363	18	5·3 ,,
	39,955				10·4 ,,

According to our estimate, therefore, the total losses are approximately as follows:—

	Rs. (lakhs).
1st January, 1923 to 30th June, 1924 . . .	28
July 1924 to 31st December, 1925	22
	50

Causes of loss.

179. Our figure is approximately Rs. 37 lakhs below that obtained from the Company's balance sheets. At first sight these figures might appear to justify the conclusion that the scheme of protection originally embodied in the Steel Industry (Protection) Act was inadequate. We do not consider that such was the case; in our view the heavy financial losses of the Tinplate Company are the result of a series of circumstances none of which could have been foreseen at the time our first Report was written. These we shall now briefly indicate.

Fall in sterling price of tinplate.

180. In 1924, the sterling price of tinplate averaged about £28* per ton; thereafter it has steadily fallen. In 1925 the average price was about £25 per ton, and in the first quarter of 1926 was less than £24 per ton. This fall in price was due, not so much to a reduction in works costs in Wales arising from improved methods of manufacture or increased output, as to certain general causes, the most important of which was the collapse of the Continental exchanges. In consequence of the depreciation of the franc, the price of Continental tinbar fell from £6-10-0 per ton delivered in South Wales in the third quarter of 1924 to £5-0-8 per ton at the end of 1925. Since then, there has been a slight rise, but in the first quarter of the current year, the price was still as low as £5-3-3. This fall reacted on the price of British tinbar, which fell from £8-5-0 in July, 1924, to £6-3-3 per ton in 1926. There has thus been a drop of over £2 a ton in the price of Welsh tinbar, which allowing for waste in manufacture, would account for a difference of nearly £2-10-0 per ton in the cost of tinplate. The Welsh costs have also been reduced by the fall in the price of coal and in those wages which are fixed on a sliding scale varying with the price of tinbar. The only substantial change which tended to produce a rise was the increase in the price of tin from £226 per ton in July, 1924 to £285 per ton in December, 1925; this represents an increase in the cost of tinplate of about £1 per ton. Another reason for the fall in Welsh prices is to be found in the collapse in 1925 of the combination of Welsh Tinplate Manufacturers which during its existence of two years had helped to maintain prices†. We have not been able to ascertain the exact date when this combination ceased to be effective, but we believe the decline of over £4 in the

* Throughout our report we have given the sterling prices c.i.f. after adjustment. The details of the adjustments will be found in annexure C.

† See evidence of Sir Edgar Jones and extracts from the speech of Mr. Thomas of Messrs. Richard Thomas and Company.

price of Welsh tinplate between January and August, 1925, may in part be ascribed to this cause.

Exchange.

181. But apart from the decline in the sterling price of tinplate, we find that the appreciation in the value of the rupee accounts for a considerable portion of the losses incurred by the Tinplate Company of India. When we submitted our first report in February, 1924, it was impossible to foresee the course of exchange and our recommendations were based throughout on a ratio of Re. 1=1*s*. 4*d*. Since that time the rupee has steadily appreciated and exchange now stands at Re. 1=1*s*. 6*d*. In the following table we give the Company's actual figures of production, works costs and average price in the two periods under consideration at the prevailing rates of exchange.

TABLE XXXVI.

	Production.	Works costs per ton.	Average price realized per ton.	Loss per ton.
	Tons.	Rs.	Rs.	Rs.
July to December 1924 . .	10,400	459	410	49
1925	29,555	381	363	18

We have now to determine what the Company's profit would have been had the rupee remained at 1*s*. 4*d*. Works costs would then have been higher; the effect of exchange appreciation on costs of production was discussed in full in paragraph 54 of our Report of the 2nd September, 1925, and we need not re-open the question here. Including the effect of exchange on the price of tin, we think an allowance of Rs. 8 per ton in 1924 and Rs. 10 in 1925, when exchange was somewhat higher, is approximately correct. Our conclusions may be shewn as follow:—

TABLE XXXVII.

Rupee exchange=1*s*. 4*d*.

	Production.	Works cost. per ton.	Price. per ton.	Gain or loss per ton.
	Tons.	Rs.	Rs.	Rs.
July to December 1924 . .	10,400	467	452	15 (loss)
1925	29,555	391	409	18 (gain)

Thus, had the exchange remained at Re. 1=1*s*. 4*d*., there would have been a surplus over works cost of Rs. 3·8 lakhs instead of a

deficit of Rs. 10·4 lakhs. This surplus would have been sufficient to cover rather more than one-third of the overhead charges, leaving a nett loss of Rs. 6·6 lakhs.

Estimated financial results during the period January, 1926, to April, 1927.

182. So far we have dealt with the financial results to the Tinplate Company basing our estimates on the actual figures. But we feel that no review of the results of protection on the Tinplate industry would be complete unless we refer to the remaining period of fifteen months during which the present scheme of protection will remain in force. In February, 1926, the duty on tinplate was enhanced from Rs. 60 to Rs. 85 per ton and the duty on tin was reduced from Rs. 555 to a specific duty of Rs. 250 per ton. In order to obtain a more accurate idea of the effect of the protective duty on the fortunes of the Company during the period of two years and nine months during which the scheme of protection will have been in force, we have estimated the profits which will accrue between January, 1926, and the 31st March, 1927, if costs and prices are maintained at approximately the same level as in the first six months of 1926. We have taken the overhead charges on the same basis as in paragraph 178. We estimate that the surplus receipts above works costs will be nearly Rs. 29 lakhs, from which about Rs. 10 lakhs has to be deducted for overhead charges. The nett profit on this estimate would therefore be about Rs. 19 lakhs. In paragraph 178 we have already shewn that in our view the loss between July, 1924, and December, 1925, amounted to Rs. 22 lakhs. It appears therefore, that while the Company has been enabled to earn no profit, the scheme of protection will have enabled it to come within Rs. 3 lakhs of meeting its works costs and reasonable overhead charges during the period July, 1924, to March, 1927.

General conclusions.

183. We have reviewed the history of the industry during the last three years in some detail, because we consider it important that the rapid progress in the manufacture of tinplate in India should be fully realized. But for the protection granted to the industry in 1924, it could hardly have survived and although, in fact, owing to circumstances which could not be foreseen, it has perhaps not received the full measure of protection intended, the assistance has been sufficient to enable the industry to work up to an economic output. Very rapid progress has been achieved in reduction of cost, in extension of output, and particularly in training Indian labour in the processes of manufacture, and there is good reason to suppose that in the course of a comparatively short period an industry of great national importance will have become firmly established.

CHAPTER XV.

Works costs: A comparison between 1924 and 1926. Future Works Costs.

Comparison of works costs between 1924 and 1926.

184. The rate at which economies have been effected in the past is some guide in attempting to estimate the time required for further economies in the future, and for this reason we think it desirable before attempting to frame an estimate of future works costs, to make some comparison of the cost of production at present and in previous years. In 1923, all the mills were not working and the figures are, therefore, useless for the purpose of comparison. We, therefore, propose to compare the results of the year 1924, the first year of full working, with those of the first seven months of 1926. But before doing so, we think it necessary to explain the exact position in regard to the price of tinbar. We have already referred to the fact that the two companies contemplate the execution of a new agreement under which the price of tinbar will be an ascertained figure in the future. The exact figure has not yet been decided but we have been told that it will be in the neighbourhood of Rs. 80 per ton. The price provisionally fixed for 1926 is Rs. 84. We have, therefore, based our comparison of costs and our future estimates of costs on the assumption that the price of tinbar will be Rs. 84 per ton in 1926 and thereafter Rs. 83 per ton, these prices being in both cases f.o.r. the Tinplate Company's works.*

We give the figures for 1924 and the first seven months of 1926 in the following table:—

TABLE XXXVIII.

Comparison of works costs.

1924 and 1926 (January to July).

Materials.	1924.	1926.	Difference.
Nett Metal.	Rs.	Rs.	Rs.
Tinbar	169·6	115·8	—53·8
Tin	76·2	58·6	—17·6
Other raw materials	15·6	13·6	—2·0
TOTAL .	261·4	188·0	—73·4

* Letters from the Tinplate Company and the Tata Iron and Steel Company giving the details of the agreement between the two companies are printed as Annexure E.

Materials.	1924.	1926.	Difference.
	Rs.	Rs.	Rs.
Above nett metal.			
Fuel	12·4	6·8	—5·6
Power	23·4	17·8	—5·6
Labour	90·0	45·1	—44·9
Materials for repairs	5·6	3·7	—1·9
Rolls, grease, etc.	16·6	16·9	+0·3
Annealing boxes	2·7	4·2	+1·5
General works expense	26·3	16·1	—10·2
Debit for spoiled sheets	...	0·8	+0·8
Packing and despatching	13·9	12·3	—1·6
Shearing and opening	6·6	3·2	—3·4
TOTAL	197·5	126·9	—70·6
Less credit for spoiled sheets	...	2·2	—2·2
TOTAL	197·5	124·7	—72·8
Total Works Cost	458·9	312·7	—146·2

It will be seen that the cost of manufacturing tinplate has fallen by Rs. 146 per ton from Rs. 458·9 per ton in 1924 to Rs. 312·7 in 1926 (first seven months). In scrutinizing the figures in detail, it will be convenient to consider them under two heads, *viz.*:—

(1) Costs of materials.

(2) Costs other than of materials.

The former comprise the costs of tinbar, tin, acid, palm oil, zinc chloride, etc.; these must depend in the main on market conditions, and save in so far as economy in the use of the materials can be effected, are not under the control of the manufacturer. Expansion of output does not necessarily result in any substantial economy and may even increase the total expenditure, if efficiency is sacrificed to speed.

Costs of material.

185. Of the total reduction in the cost of manufacture (Rs. 146 per ton) almost exactly half, *viz.*, Rs. 73·4, represents the reduction in costs of material, of which reduction Rs. 53·8 per ton is accounted for by a fall in

the price of tinbar. The economy effected in the use of tin is obscured by the rise in the price of that commodity. Actually the consumption of tin is about 11 lbs. less than in 1924, a saving which at present prices represents about Rs. 19 per ton of tinplate. The reduction in the duty on tin notified in the Finance Department (Central Revenues) Notification No. 5, dated the 27th February, 1926, represents a fall in costs of about Rs. 5 per ton of tinplate, but in the period of seven months, which we are considering, its full effect is not apparent. There is also another factor which has counteracted the decline in costs. In 1924, the steel consumed per ton of tinplate was 1·32 tons. In 1926, this rose to 1·40 tons. If the yield of tinplate had been maintained, a further reduction of Rs. 6·7 per ton would have been effected. This deterioration may be ascribed mainly to the very rapid expansion of output, which has resulted in some increase in the number of spoilt sheets, and in the amount of scrap produced. The point is one which will be borne in mind in estimating future costs of production.

Costs other than of materials.

186. It is by a comparison of the costs other than of materials that improvement in manufacture can best be judged, since they reflect in the clearest manner changes in output, improved practice and general economy. The expenditure under this head decreased from Rs. 197·5 per ton in 1924 to Rs. 126·9 in the first seven months of 1926, or by Rs. 70·6 per ton. Production increased from 20,763 tons in 1924 to 20,212 in the first seven months of 1926, which is equivalent to an output of about 35,000 tons a year and we have no reason to suppose that the Company's estimate of 36,000 tons will not be obtained next year. The labour figures show an improvement of 50 per cent., falling from Rs. 90 to Rs. 45 per ton. This is largely, though not wholly, due to the increased production. The number of covenanted men was reduced from 84 to 58 (Statement XIII) or by about 30 per cent. while in spite of the increased output it proved possible to reduce the number of uncovenanted employees by about 10 per cent. Production per head increased by nearly 90 per cent. from 6·58 tons in 1924 to 12·29 tons in 1926 (Statement XIV). Perhaps the most satisfactory feature of this branch of the works costs is the reduction in labour charges, but we still feel that there is room for more economy in this direction. The relatively low wages of Indian labour have often led to the employment of more men than are necessary and we cannot impress too strongly on manufacturers the desirability of limiting the numbers as well as of improving the efficiency of the labour force; we urge this as much in the interests of improved labour conditions as of economic manufacture, and we believe that with fewer but more efficient workers the standard of living of industrial labour will rapidly rise.

Miscellaneous costs.

187. Charges for fuel, which consists of second class coal, have fallen by nearly 50 per cent. mainly owing to a reduction in price. The power used is electricity purchased under contract from the Tata Iron and Steel

Company. A saving of about 25 per cent. is partly accounted for by increased production and partly by a fall in the price. The rate charged, *viz.*, 9·24 pies per unit, appears higher than is usually charged by electric supply companies for such favourable loads. The reduction under general works expenses is accounted for partly by an increase in output and partly by a fall in expenditure on the town which is included under this head. Packing and despatching costs amount to over Rs. 12 per ton. This apparently high figure is due to the fact that about 60 lbs. of tinplate, costing roughly Rs. 8, are used for packing every ton of tinplate despatched and are not included in the weight of plates charged for. A reduction in these costs will necessarily follow with the anticipated fall in the cost of production of tinplate.

Future works costs.

188. The works costs for the first seven months of 1926 were Rs. 312·7 per ton. Before, however, we can accept this figure as a basis for an estimate of future works costs, it is necessary to make a further reduction. The change in the duty on tin, which represents approximately an expenditure of Rs. 5 less per ton of tinplate is reflected in the costs of only three of the seven months which we are considering. A reduction of Rs. 2·1 on this account is necessary, giving Rs. 310·6 as the figure on which we may fairly base our estimate of future costs.

Probable reduction in works costs.

189. In Statement XIX the Company has given an estimate of works costs for a period of 10 years from April, 1927. We consider that seven years is sufficient to enable the industry to effect a substantial reduction; at the end of this period the Company estimates that works costs will be Rs. 285 per ton. This appears to us a high figure and should be reduced. The price of tinbar is expected to drop from Rs. 84 to Rs. 83 per ton which will make a difference of about Re. 1·32. The consumption of tin per ton of tinplate is 41·34 lbs. and is expected to be reduced to about 40 lbs. gross. This will mean a saving of Rs. 2·5 per ton of tinplate. We do not take into account any rise or fall in the world price of tin, for it would affect the price of imported tinplate to the same extent. Mr. Townend in his evidence admits the possibility of a saving of Rs. 10 per ton in the cost of European labour. He does not anticipate much reduction in the cost of Indian labour, but we think that a reduction to the extent of Rs. 5 per ton is not impossible of attainment. Better practice must result in fewer repairs, less wastage and in economy in the use of miscellaneous materials, while the distribution of general charges over a larger output will give a smaller incidence per ton. We have already explained that, as the cost of producing tinplate is reduced, the cost of packing must also fall. A reduction under these different heads of about Rs. 6 per ton should be effected. We have also to make a further reduction of Rs. 6·7 on account of reduced consumption of tinbar per ton of tinplate [*vide* paragraph 185] which we have not taken into account in estimating the works

cost for 1926. The anticipated economies may now be summarized as follows:—

	Rs. Per ton.
Consumption of tinbar	6·7
Price of tinbar	1·3
Consumption of tin	2·5
European labour	10
Indian labour	5
Miscellaneous expenses	6
	31·5

1933 costs (Rs. 310·6 less Rs. 31·5)=Rs. 279·1 per ton.

The Board's estimate of average costs during the period of protection.

190. We have had some difficulty in determining what figure to select as representing average works costs for the period of seven years. The figure must lie somewhere between the two limits of Rs. 310·6 and Rs. 279·1. The arithmetical mean is Rs. 294·8, but the rate at which our suggested economies can be effected will also have a direct bearing on this question. In the first half of the period it is reasonable to suppose that the reduced consumption of tinbar will be fully attained. This represents a saving of Rs. 6·7 per ton, while the reduction in the price of tinbar in 1927 to Rs. 83 per ton represents a further saving of Re. 1·3 per ton in the cost of tinplate. The total of the economies which we can definitely assign to the first half of the seven year period is thus Rs. 8 per ton. A figure somewhat below the arithmetical mean appears suitable and we have fixed Rs. 293 per ton as a reasonable figure.

CHAPTER XVI.

The Fair Selling Price.

The fair selling price.

191. The fair selling price f.o.r. works consists of works cost, overhead charges, and manufacturer's profit. Overhead charges comprise:—

(*a*) Depreciation;

(*b*) Interest on working capital;

(*c*) Head office charges.

Depreciation is calculated on the value of the plant and we have, therefore, to consider what is a reasonable valuation at the present time of the Company's block account.

Block value in the Company's books.

192. The figure at which it stands in the Company's books is Rs. 161·6 lakhs, approximately Rs. 145 lakhs for the works and Rs. 17 lakhs for Golmuri town. Almost three quarters of the total is for buildings, machinery and equipment ordered in 1920 and 1921 in the United States of America and to a small extent in Great Britain, and a part of the remainder is for imported stores ordered in India mainly between 1921 and 1923. Owing to the general fall in commodity prices since those years and to the rise in the exchange value of the rupee, it is clear that the present replacement value must be less than the block value. Evidence bearing on this question has been submitted to us from two quarters, from the Tinplate Company itself and from the Welsh Plate and Sheet Manufacturers' Association.

The Company's revised estimate.

193. The Tinplate Company of India has this year obtained revised quotations from its original suppliers in America and Great Britain, on which it has based a new valuation of its plant. On examination of the revised quotations received by the Tinplate Company, we find that in a number of important respects they are substantially higher than we can accept as reasonable and we do not feel satisfied that the Company's valuation of plant and equipment, based on these estimates, is not higher than the real replacement value.

The Welsh Plate and Sheet Manufacturers' Association's estimate.

194. On the other hand, we do not regard it as satisfactory to base our estimate on the Welsh figures which, although they give the present cost of a tinplate plant of the same type and capacity as that of the Tinplate Company of India, represent not the cost of a factory actually erected but only an estimate of the cost of erection of a plant in Wales having the same output as that at Golmuri. It would be necessary to make

due allowance for the numerous factors which make the cost of a plant in India considerably higher than that of a similar plant in Wales. It will be obvious to any one conversant with the trying nature of work in a tin mill or sheet mill, that the climatic conditions of India necessitate special features in the design. Among these are the provision of high and spacious buildings, the use of hoods over the heating furnaces, the water cooling of the mill floor plates and the supply of cooled air at the hottest working points of the furnaces and mills. In addition, Indian labour cannot be expected at the present stage to use the machinery as rapidly and efficiently as experienced Welsh labour, and an Indian works must also be more self-dependent for repairs and minor renewals. On both these accounts more equipment is required and therefore more space. On these grounds we feel that an estimate based on the Welsh figures might be too low for the real expenditure necessary in India just as the Tinplate Company's revised estimate might be too high.

The Board's revaluation.

195. We have therefore preferred to adopt a different method of arriving at a fair valuation. We propose to reduce the original valuation in much the same proportion as we have adopted in our valuation of that part of the Tata Iron and Steel Company's works which is known as the "Greater Extensions." We feel justified in adopting this course, because both plants were purchased at much the same time, at about the same price levels and almost entirely in the same country (America); similar parts of the plant were ordered from the same firms; the same consulting engineers were responsible for the designs, and the buildings, machinery and equipment are generally of similar types. Moreover, the initial cost of the Steel Company's expenditure on its town bears much the same relation to the book value of the total fixed assets as in the case of the Tinplate Company. It will appear from paragraph 77 of our first Steel Report of 1924, that after careful consideration we wrote down the value of the "Greater Extensions" from Rs. 15 crores to Rs. 10 crores. This reduction has not been challenged by the Tata Iron and Steel Company and has, we think, been generally accepted as reasonable.. We have again had this valuation under review during the course of this enquiry, and have found it necessary, mainly owing to the rise in the value of the rupee, to reduce our previous estimate by one-sixth. When we apply similar reductions to the initial cost of the Tinplate Company's plant, we reach a figure of Rs. 89·8 lakhs which we consider fairly represents the present replacement value of the assets. But we have also to consider whether the Company has burdened its block account with expenditure which, while it may prove profitable if the Company's operations are extended, is not now a legitimate charge on the output. The Company admit that this is the case. After inspecting the works and reviewing all the circumstances we are of opinion that it would be reasonable to make a further reduction of Rs. 5 lakhs on this account. We, therefore, take Rs. 85 lakhs as the

proper fixed capital expenditure at present values for a production of 36,000 tons of tinplate.

Overhead charges.

196. We take depreciation at the same rate on the capital value as we have allowed in the case of the rolled steel industry, *viz.*, 6¼ per cent. Our valuation of the plant and town is Rs. 85 lakhs and on an output of 36,000 tons per year the incidence of depreciation will be Rs. 14·75 per ton. The Company places its working capital at Rs. 30 lakhs which represents about three months' production at works cost. We think that this amount is reasonable. Interest at the rate of 7½ per cent. is claimed on this amount. As the assets of the Company are heavily mortgaged we think it unlikely that it could borrow money at a lower rate of interest than this and are prepared to allow the claim. On a production of 36,000 tons, the incidence of this charge is Rs. 6·25 per ton. For head office and other charges Rs. 1·76 per ton is claimed. The figure is based on the expenditure incurred this year under these heads and is not excessive. The overhead charges per ton will, therefore, be as follows:—

	Rs. Per ton.
Depreciation	14·75
Interest on working capital	6·25
Head office, etc.	1·76
TOTAL .	22·76

Manufacturer's profit.

197. In the course of the debate in the Legislative Assembly on the subject of the grant of supplementary protection to the Tinplate industry the Hon'ble the Member for Commerce made the following statement:—

> "When the Tariff Board do investigate that question, we propose definitely to instruct them also to investigate the question of capital invested in this Company and to investigate the question whether that capital ought not to be written down."

The capital of the Tinplate Company of India consists of 500,000 ordinary shares giving a total capital of Rs. 75 lakhs. In addition to this there is a 10 per cent. debenture loan of Rs. 1,24,95,000. Whether the share capital or the debenture loan or both should be written down and, if so, to what extent, is a matter which must be decided by the Company itself. We have been informed that negotiations are now proceeding for the reduction of the capital by writing down both the debenture and the ordinary shares to a figure which in the Company's opinion represents the present day valuation of the works. But for the purpose of any scheme of protection we are of opinion that our valuation of the plant and town, *viz.*, Rs. 85 lakhs, must be taken as the total sum on which manufacturer's profit can be allowed. We consider that a fair all round

rate of interest, sufficient to enable this capital to be raised, is 8 per cent. which is the same as that taken by us in the case of the Tata Iron and Steel Company. This would give an incidence per ton of output of Rs. 18·9. The average fair selling price f.o.r. works during a period of seven years will, therefore, be as follows:—

	Rs. Per ton.
Works cost	293
Overhead	22·76
Profit	18·9
	334·66

Adjustments to the fair selling price.

198. The figure given above is the price at which the average saleable product of the Company can be put on rail at the works at a reasonable profit. To ascertain the amount of protection required the fair selling price has to be compared with the price of imported tinplate. But there are two important factors to be taken into account in making this comparison, one being the cost of delivery from the works at Golmuri to the customer, and the other the fact that a proportion of the tinplates are classed as wasters, *i.e.*, have imperfections which leave them serviceable but reduce the price which the market is prepared to pay.

Adjustment on account of freight.

199. As the Company has to pay the freight from the works to the customer, we have obtained information (Statement XXIII) showing the average freights paid during the first half of 1926. The weighted average freight on tinplates delivered to port towns is Rs. 12·76 per ton. By far the largest demand for tinplate is in the seaport towns for use in the distribution of kerosene and petrol in the interior of the country. Since it is in these markets that the Indian article must compete with the imported article, at the c.i.f. prices *plus* landing charges and duty, the average railway freight required to put the Company's goods on the market, *viz.*, Rs. 12·76, must be added to the cost of production.

Adjustment on account of wasters.

200. It would be possible to make allowance for the lower prices obtained for wasters by adjusting the selling prices of imported tinplate. We have preferred, however, to regard the loss in receipts on account of the low price received for wasters as part of the essential cost of producing primes (*i.e.*, plates which command the full price). The market for "wasters" in this country is at present limited, mainly on account of the restricted development of Indian industries, though possibly the almost universal use of the second-hand kerosene tin as a container may also affect the demand. The effects of these factors upon the demand for wasters may decrease in the future, but in the meanwhile "wasters" are sold at a price which is nearly a hundred rupees per ton less than the price of primes in India, the average prices during the first half of 1926 being Rs. 391 per ton for "primes"

against Rs. 293 per ton for "wasters." Of the total production of tinplate about one-fifth is in the form of "wasters" and in consequence the average realized price of all tinplate is reduced by about Rs. 20 per ton. We have considered whether somewhat less than the whole of this amount should be taken into account in the fair selling price. Such a course would be an inducement to the Company to reduce the percentage of "wasters" or develop a more profitable market for them. The percentage of "wasters" produced in Wales is about 15, against 20 in the Tinplate Company's works, while we are informed that in America it is about 22 per cent. It appears to us, therefore, that at the present stage of the Company's development, the outturn of "wasters" is not excessive and we do not suggest a reduction on this ground. But we have no evidence to indicate that the Company has reached finality in its efforts to develop the market and we think that further steps should be taken in this direction. For this reason we think that a reduction of Rs. 2 per ton is not unreasonable and we would make an addition of Rs. 18 to the fair selling price on this account.

Adjustment on account of method of packing.

201. A further adjustment has also to be made for the credit which the Tinplate Company must give to the Burmah Oil Company on account of the method of packing its tinplate; this has not been taken into account in the c.i.f. price of imported tinplate as has been explained in Annexure C. This amounts to about Rs. 2·8 per ton of tinplate.

Final estimate of fair selling price.

202. We have thus to add about Rs. 33·6 per ton on account of freight, reduced price obtained for "wasters" and the adjustment on account of packing, in order to arrive at the price which the Company should realise for primes. Our final estimate of the fair selling price is therefore as follows:—

	Rs. Per ton.
Works cost	293
Overhead charges	22·76
Manufacturer's profit	18·9
Adjustments—	
Freight	12·76
Wasters	18
Packing	2·8
TOTAL	368·22

CHAPTER XVII.

Future c.i.f. prices. Measure and duration of protection. Ability of the industry eventually to dispense with protection.

Estimate of future import prices.

203. In considering the future prices of imported tinplate, we are fortunate in one respect, namely that the principal countries of manufacture are the United Kingdom and America, where the currencies are on a gold basis. Prices are not therefore subject to sudden variations resulting from the depreciation of exchanges, though the indirect effect of Continental depreciation on cost of production may still be considerable. Further, the Welsh tinplate industry appears to be less liable to competition, since practically no tinplate is manufactured for export on the Continent and it has been possible in the past to stabilize or even raise prices by combinations of manufacturers. Such evidence as we have received tends to show that, in the present circumstances of the Welsh tinplate industry, it is improbable that there will be any further lowering of prices. In Chapter XIV of this report, we have already shown that the Welsh price of tinplate has fallen concurrently with the fall in the price of tinbar. As the average price of British tinbar in 1913 was £5-4-0 per ton and in the first quarter of this year was only £6-3-3, it seems unlikely that any further considerable reduction will be possible. We think, therefore, that the price of imported tinplate is not likely to fall much below the level of the first quarter of 1926. We have no evidence to lead us to suppose that there will be any sudden increase in the price of imported tinplate except on account of a possible rise in the price of tin. Any such increase will affect the cost of Indian and foreign manufacturers alike, and will leave the need for protection unchanged. We propose, therefore, to base our proposals on the average price of tinplate prevailing in the early months of 1926. Since the coal stoppage in the United Kingdom in May of this year, prices have somewhat risen; but between September, 1925, and May, 1926, the c.i.f. price has remained in the neighbourhood of £24. Ignoring the temporary effect of the coal stoppage, we take, as the basis of our calculations of a protective duty, the average of the first five months of 1926, *viz.*, £23-16-9 c.i.f. The rupee equivalent of £23-16-9 at 1*s.* 6*d.* is Rs. 317-13-4 to which must be added Rs. 2-12 for landing charges. The landed price is thus in round figures Rs. 320 per ton.

Measure of protection.

204. The measure of protection is the difference between the fair selling price and the c.i.f. landed price. The former according to our estimate is Rs. 368 and the latter Rs. 320. Therefore the duty required is Rs. 48 per ton (Rs. 37 per ton below the present rate of duty), and we recommend the imposition of a duty of that amount.

Request for exemption of certain kinds of tinplate.

205. We have received a request from the Imperial Tobacco Company of India, Limited, that, if any further increase in the import duty be recommended, exemption should be granted in respect of the "70-lb." tinplates in which they are specially interested. These are thin plates which are not at present manufactured in India. The Welsh Plate and Sheet Manufacturers' Association has asked that all tinplates other than those of ordinary quality of the two "oil" sizes, or multiples of those sizes, should be exempted from the protective duty. As we are recommending a substantial reduction of the duty rather than an increase, the Tobacco Company's conditional request requires no further consideration. As regards the Welsh application, we feel that it has perhaps been pressed on the assumption that the protective duty will be increased. Many of the special kinds of tinplate are more expensive than oilplate, and the protective duty which we have recommended is so little above the 10 per cent. *ad valorem* revenue duty to which they would be subject in any case, that the burden on the consumer is negligible. But we should have been opposed to the proposal on other grounds also. The Tinplate Company of India has for some time been making tinplate of kinds other than oil plate and as the Indian demand for oil plate is met more completely by the Indian manufacturer in the future, it will be necessary to undertake the production of other varieties of tinplate.

Proposal for Imperial Preference.

206. The Welsh Association has also represented to us that in the event of protective duties being imposed on all tinplate, preferential rates should be fixed in favour of Wales. In so far as this proposal involves purely the question of Imperial Preference, we express no opinion. As far as its economic aspect goes, we must definitely state that we find no ground for the adoption of such a policy. Preferential rates in favour of the principal competitor would on economic grounds be incompatible with any scheme of protection and we are, for that reason, unable to recommend them.

Period of protection seven years.

207. Our estimate of the future costs of the industry and of the price of imported tinplate indicates that, at the end of seven years, the industry will probably be in a position to do without any protective duty, and we propose therefore that the period of protection should be fixed for seven years. In the last three years we find that the total import of tinplates and the production of the Tinplate Company of India taken together give the following totals:—

	Tons.
1923-24	56,000
1924-25	59,000
1925-26	60,000

In normal circumstances it does not appear that the increase in the demand would exceed 1,500 tons annually. At the end of the

period of protection we should thus expect a market for not much more than 70,000 tons. The Tinplate Company of India on its present plant will produce in the protected period approximately 36,000 tons a year. There remains a market for a further 34,000 tons, which may be met either by the existing Company, whose works are so constructed that extensions to produce an additional 24,000 tons can be conveniently undertaken, or by a new Company which would require at least five years from inception to reach full production. In either case, we consider that the possibilities of development would be sufficiently met by fixing the protective duties for a period of seven years.

Will the industry be able to dispense with protection?

208. In paragraph 31 (page 124) of our first Report (1924) we observed with reference to this industry:—

> "It would be premature to express a confident opinion when the manufacture has been carried on for only one year, as to the eventual ability of the industry to dispense with protection altogether, but the success hitherto attained is sufficient to justify the hope that it will do so."

In the terms of reference the Government of India draw our attention to these observations, and we now proceed to consider the question. The condition that an industry, in order to qualify for protection, must be one which will eventually be able to face world competition without protection, is set forth in paragraph 97 (3) of the Fiscal Commission's Report, but the precise implications of this condition are nowhere definitely explained. In view of the recommendation of the Fiscal Commission that there should be a clear distinction in the tariff between protective and revenue duties, it would not be unreasonable for an industry to claim that where foreign competition can be faced with the help of the revenue duty only, it is able to dispense with protection and therefore virtually satisfies the third condition laid down by the Fiscal Commission. On the other hand, it may be maintained that revenue duties vary according to the needs of the country, and that, until an industry can dispense with all extraneous assistance, its position is not secure. In the enquiry on which we are at present engaged, we think it unnecessary to commit ourselves to any interpretation of the Fiscal Commission's intentions. We have good reason to suppose that whichever view is taken on this point, the tinplate industry will eventually be able to stand without protection.

Question considered on the assumption that present revenue duty is retained.

209. We have estimated that the average works costs will be reduced by the end of the period of protection to Rs. 279·1. With the addition of overhead charges Rs. 22·76 per ton, profit Rs. 18·9 and charges on account of adjustments Rs. 33·56, a selling price of Rs. 354·32 per ton is obtained. The present landed price of imported tinplate is Rs. 320 and the revenue duty at 10 per cent. *ad valorem* amounts

to Rs. 32, giving a total price of Rs. 352, as against a fair selling price of Rs. 354·32 for Indian tinplate. Should the 10 per cent. revenue duty continue after the year 1933, further assistance to the industry appears unnecessary.

Question considered on the assumption that present revenue duties are reduced or abolished.

210. We feel that a discussion as to whether the tinplate industry will eventually be able to dispense with the assistance afforded by the revenue duty of 10 per cent. *ad valorem* has but an academic interest. A general system of import duties is an integral part of the fiscal machinery of this country, and we have no ground for supposing that there will be any essential change in this respect by the year 1933. We propose, therefore, to indicate very generally some of the factors which may render it unnecessary for the industry to rely eventually on any revenue duty. With the industrial development of India, an improved price for " wasters " should be realized, while the demand for the steel scrap produced by the Company, which is at present exported to Italy, may expand, enabling the industry to dispose of this waste product more profitably in India. We refer to these items as examples only, and we by no means exclude the possibility of further economies due to improved practice. Further, if the revenue system of the country is altered so as to result in a material reduction in the duty on tinplate, we may reasonably expect that the duty on the raw materials from which tinplate is manufactured will be correspondingly reduced. The incidence of the duty of Rs. 250 per ton on tin which still remains, amounts to Rs. 4·5, while the duty on miscellaneous stores and material for repairs is about Rs. 3·5 per ton of tinplate. Thus the disadvantage which the industry would suffer if the 10 per cent. *ad valorem* duty (Rs. 32 per ton) were abolished, would be substantially reduced. We consider that the possibilities of economies already suggested are sufficient to raise a reasonable presumption that, in due course, the industry will be able to dispense with protection, even if the term is used to include the assistance derived from a purely revenue tariff.

Price of tinbar.

211. One point remains in connection with this question. The Tata Iron and Steel Company has undertaken to sell to the Tinplate Company tinbar at a price of about Rs. 83 and it might be urged that if this price was uneconomic, it would operate as an indirect subsidy. We are satisfied that the Tata Iron and Steel Company will be able, in the long run, to sell tinbar at this price without any protection. Their estimate of the works costs in respect of tinbar is Rs. 71 per ton in 1926-27 and Rs. 61 after 10 years. Our estimate as to the average future works costs, however, is about Rs. 60 per ton. This would give the Tata Iron and Steel Company a margin of Rs. 23 per ton, which in the case of a semi-finished product rolled on the continuous mill, is reasonable as an allowance for overhead charges and manufacturer's profit. An additional production of 50,000 tons on this mill will reduce the cost of all material rolled on it, and a

ready outlet for such a large quantity of steel is in itself an advantage to the steel manufacturer. The price of Rs. 83 per ton is almost the same as the Welsh tinplate manufacturers pay for British tinbar (£6-3-3), and there is no reason to think that an agreement between the Tata Iron and Steel Company and the Tinplate Company of India fixing the price of tinbar at this level during the period of protection, would in any way unduly assist the latter Company.

Effect of proposals on consumer.

212. The following table gives the effect of our proposals on the consumer of tinplate:—

TABLE XXXIX.

—	Average rate of exchange. Pence.	C.i.f. price Rs. per ton.	Landing charges Rs. per ton.	Duty Rs. per ton.	Approximate total price Rs. per ton.
1923	16·33	407	2·4	40	449
1924 January to June . .	16·89	397·4	2·5	40	440
1924 July to December .	17·64	377·0	2·5	60	440
1925	18·04	335·1	2·71	60	398
1926 March . . .	18·19	315·2	2·75	85	403
Under scheme now proposed .	18	317·8	2·75	48	369

Notwithstanding the imposition of protective duties, there has been a steady decline in the price of tinplate and though under our proposals the duty would be higher by Rs. 8 per ton than it was in 1923, the price of tinplate is lower by no less than Rs. 80 per ton. It is therefore clear that the scheme of protection adopted by Government has not constituted a serious burden on the consumer.

CHAPTER XVIII.

Representation of the Welsh Plate and Sheet Manufacturers' Association.

Welsh Plate and Sheet Manufacturers' representation.

213. No Indian interests have submitted any protest against the application of the Tinplate Company for the continuance of protection. But we have received a representation from the Welsh Plate and Sheet Manufacturers' Association, London, in which the further grant of protection to the Indian Tinplate industry is opposed. Oral evidence was given on the Association's behalf on 3rd and 4th August, 1926, by Sir Edgar Jones, K.B.E., who though not otherwise connected with the manufacture of tinplate, represents the Association in public enquiries and in all matters connected with propaganda. While we are prepared to allow full weight to the arguments advanced by an Association with the experience of tinplate manufacture which the Welsh Plate and Sheet Manufacturers can claim, we feel constrained to point out that the representation loses much of its force from the fact that the arguments advanced are based on the figures set forth in the enquiries of 1923 and 1925. In the earlier portion of our report, we have already explained at length the great improvement which has recently been effected in the manufacture of tinplate in India, and we feel that, had the figures therein set forth been before the Association at the time its statement was drafted, both the form and the substance of the presentation would have been substantially modified. It appears unnecessary to discuss in detail arguments based on figures which are obviously out of date and we have therefore confined our attention to the most important matters referred to in the representation. In our terms of reference we have been instructed to enquire whether the Tinplate industry satisfies one condition precedent to the grant of protection, *viz.*, whether it would eventually be able to stand without protection. It is only to this extent that we are concerned in this enquiry with the general question of the fitness of the industry for protection. It might be maintained, therefore, that it would be beyond the scope of our enquiry to consider the arguments of the Welsh Plate and Sheet Manufacturers directed to prove that the Indian Tinplate industry does not satisfy the remaining conditions which must be fulfilled before protection is granted. We have thought it desirable, however, to discuss, as far as possible, in the order in which they are presented, those arguments which have not already been dealt with in the previous chapters of our Report and to indicate briefly why we consider them inapplicable to the Tinplate industry in its present state of development.

Allegation that Tinplate Company is not a general manufacturer of tinplate.

214. We have found some difficulty in understanding in what way the allegation that the Tinplate Company of India has not proved its capacity as a general manufacturer of tinplate, affects the general question of the suitability of the

industry for protection. As a reason for the exemption from protective duty of those classes of tinplate which are not produced in India the argument is not without force. We have dealt with this aspect of the case elsewhere in our report and it is sufficient here to point out that the protective duty we have proposed is so small that in the case of special qualities of tinplate, it is almost equivalent to the revenue duty. It is admitted that the Indian industry does not at present manufacture many kinds of tinplate, while we have been informed that one Welsh works alone produces nineteen hundred and fifty varieties. Market conditions necessarily govern the range of articles produced in any industry and it is obvious that the production of goods for which there is a very limited demand, would not be a profitable commercial undertaking in India. At present approximately two-thirds of the Indian demand is for those varieties of tinplate which are used in the manufacture of oil containers. The advantages of specializing in the manufacture of a few varieties of tinplate for which there is a large and continuous demand are evident, and we think that the Company was well advised to concentrate its attention on the manufacture of oil plates in the early years of its existence. As the industry develops and the manufacture of tinplate in India approximates to the demand, other varieties will be produced. The Tinplate Company claims that it has already manufactured without difficulty eighteen different varieties, and there is good reason to believe that it will be possible to produce in India all kinds of tinplate for which there is a substantial demand within a reasonable period.

"Factors against success" of Indian industry.

215. The Welsh manufacturers assert that "the factors against success" in the commercial manufacture of tinplate in India "are conclusive." At the time they wrote this they had not ascertained the recent costs of the Tinplate Company, which are already substantially lower than those which the Association had in mind. We have shewn in the earlier part of our Report that, in a relatively few years, the tinplate industry in India will be able to dispense with protection. It is indeed probable that if the various imported materials used in the manufacture could be obtained at prices, delivered at the Indian works, equivalent to the prices at Welsh works, the total works costs of tinplate in India would in a few years be as low as, if not lower than, in Wales. In the Association's opinion there are three obstacles to the success of the industry, *viz.*, high labour costs, high cost of materials and the difficulty of disposing of wasters. We have already discussed fully the question of wasters and it is admitted that the cost of imported materials is higher than in Wales. The remaining points we shall now consider.

Comparison of labour costs.

216. We have been supplied with a sworn statement by Mr. H. C. Thomas, Assistant Secretary to the Welsh Plate and Sheet Manufacturers' Association, which contains some general information about labour costs in South Wales. The average wages for the quarter ending March, 1926, are there stated to be 4*s.* 1·3*d.* per basis box, or £4-5-2 per ton. This equals Rs. 56·8 per ton at 1*s.* 6*d.* or Rs. 63·9 at 1*s.* 4*d.* The average

wages cost per ton at Golmuri during the first five months of 1926 was Rs. 59·3. Although we realize that the Welsh average covers the production of some plates which require more labour than those made in India, we do not regard the comparison as unfavourable; for the Indian works has been in operation a little over 3 years and a fairly large and expensive Welsh supervising staff still has to be employed. And if, as we estimate, the total labour cost in the Indian works falls during the next few years by about Rs. 15 per ton of tinplate, the cost may then be below the average Welsh labour cost for the same kind of tinplate. The whole of the Indian labour employed in tinplate making has less than four years' experience whilst in Welsh works, according to the figures supplied by Mr. Thomas, about one-third of the men have more than 20 years' service, over one half have more than 10 years', and over three quarters have more than 5 years' service. Experience is an important factor in tinplate manufacture as the Association rightly claims, and it is not unreasonable to expect that its benefits will become increasingly apparent in India during the next few years. As regards the total number of men employed, Mr. Thomas estimates that for a six mill equipment similar to the Indian works producing 30,000 tons, 710 to 720 employees would be required. For an output of 35,000 tons (the estimated output at Golmuri in 1926) the number would presumably be about 800. The total number employed at Golmuri is 2,800, a proportion of about 1 to $3\frac{1}{2}$. The output per head in India under present circumstances cannot be expected to equal that in Europe and we do not consider this proportion unpromising in the early stages of an industry which depends so largely on manual labour.

Costs of materials.

217. The nett consumption of tin per box in Wales is said to be about 1 lb. 10 oz. This is not much better than Indian practice. Locally made tinbar, as we have seen, is no cheaper in Wales than here. Thus, in the three most important respects—wages, tin and tinbar—the Welsh manufacturer can claim no permanent advantage and if his costs are a little lower to-day than those in India, it is largely due to the lower prices of some of the raw materials and to the import duties which the Indian manufacturer has to pay.

Use of Indian material and effect on employment of labour.

218. We do not propose to deal at any length with the statement that the Tinplate Company of India has failed to promote a "permanent profitable increased production of Indian materials" or opened permanent new avenues for Indian labour. The cost of tinbar represents rather over one-third of the cost of production of tinplate. We have already discussed the agreement between the Tata Iron and Steel Company and the Tinplate Company of India and have stated reasons for our belief that the price at which tinbar will be supplied will be on the whole an economic price and will not be detrimental to Indian steel production. Including fuel and power, the value of Indian materials is rather over three quarters of the total value of the materials used excluding tin, which is not produced on any substantial scale in any tinplate manufacturing country. It is asserted by the Association that "the restriction of

general labour due to the check imposed by protection entirely outweighs the labour employed in the manufacture of tinplates." We do not believe that the small protective duty which we have recommended will in any way adversely affect other industries, and we have received no application from Indian industries opposing the continuance of protection on this ground.

Wages of covenanted labour.

219. We now turn to that portion of the Association's representation which deals with the conditions of labour in the Tinplate industry. The Association has compared the rates of wages drawn by the covenanted labour of the Tinplate Company with the rates of wages in Wales and with those drawn by the Indian employees of the Company, and has arrived at the conclusion that the wages of covenanted employees are excessive. We do not consider the comparison convincing. The covenanted employees of the Company were brought out to India for the special purpose of training untried Indian labour in the difficult processes of tinplate manufacture, and are retained in employment only in so far as they are successful in their instruction. Their position is that of instructors rather than of operatives. The Welsh wages given are the average of each department for employees of all grades of experience and in many departments the wages of women and juveniles are also included. The comparison is, therefore, misleading. But apart from this, it is undeniable that in the early stages of a new and highly technical industry, the importation of experienced instructors is necessary. The rates of pay are not in excess of those paid in other new industries to their employees brought from abroad, and we find it difficult to believe that the Tinplate Company, whose losses have furnished every inducement to economy, is not in a better position than the Association to judge whether the wages paid are excessive. We have already explained in paragraph 177 that, in our opinion, the Tinplate Company has been well advised in the policy which it has adopted. In little over three years the number of imported employees has been reduced by about one-third, and as Indians become more experienced further reductions will be made until, in the course of a few years, the incidence of the wages of the imported staff will form but an insignificant proportion of the cost of the finished article.

Wages of Indian labour.

220. As regards the level of wages of Indian labour, it is obvious that the wages paid to operatives who are learning a new trade cannot fairly be compared with the rate which is appropriate to skilled and experienced workers, while no comparison with the level of wages prevailing in other countries would be legitimate which did not take into account the differences in the standard of comfort and general purchasing power. This is admittedly a difficult and complicated question and it is to be regretted that the Association has thought fit to support its conclusions by statements which are somewhat political in character.

Conditions of Indian labour

221. We have made a careful examination of the general conditions of Indian labour at Golmuri. The average scale of wages compares very favour-

ably with that prevalent for similar classes of labour in other industrial centres. In addition to this, excellent housing arrangements have been made by the Company at its own expense. About half the labour is accommodated in well built houses, most of which are provided with water-borne sanitation, and the rents charged are moderate. The remainder of the workmen live in houses built by themselves, partly with their own and partly with money advanced by the Company. There is an ample supply of filtered water for the whole population, and free medical treatment is provided not only for the workmen and their families but for all applicants. Arrangements for the education of children have been made in conjunction with the Tata Iron and Steel Company. The attention of Sir Edgar Jones was drawn in his oral examination to the labour conditions at Golmuri and he said " On the social side no criticisms can be made against them; and I think they call for a good deal of commendation. So far as you can arrange for the men's comforts in a steel works, I do not think anything is omitted." In view of this statement we think it unnecessary to discuss in detail the arguments put forward in paragraph 27 of the representation.*

Manufacture of tinplate "not an industry."

222. It has been urged that the manufacture of tinplate in India is not an industry and consequently cannot qualify for protection. The Association considers that the Tinplate Company is in effect a mere department of the Burmah Oil Company and has been able to penalize its competitors in the oil trade by the imposition of tariff duties on the articles competing with those produced in its own tinplate works. The argument appears to us to rest on a misconception of the true position. The statement that the original shares of the Tata Iron and Steel Company in the Tinplate Company have no value and are to all intents and purposes wiped out is incorrect. We have received evidence that a reconstruction of the share capital is under consideration involving a reduction of the debenture loan and the ordinary shares proportionately, but it has nowhere been stated that the shares of the Tata Iron and Steel Company will be completely written off. It was suggested that the Oil Company as the principal shareholder was in control of the Tinplate Company and derived some special advantage therefrom. In evidence, however, it was stated that the argument was not in reference to the present position but to the future and would apply only if the scale of protection was prohibitive. In view of the very moderate nature of the scale of protection proposed, we need not discuss this matter further. Nor does it appear that the Burmah Oil Company is able to obtain oilplate at any lower rate than its competitors. The price is governed by an agreement with the Tinplate Company under which the Oil Company is entitled to purchase all tinplate of satisfactory quality manufactured out of 35,000 tons of tinbar at the ascertained price of imported tinplate, including the duty. The Company is thus in no better position in the matter of price than if it

* See Volume VI—The Evidence recorded by the Indian Tariff Board during the enquiry into the question of continuance of protection to the Tinplate industry.

purchased imported tinplate. Far from securing to itself additional profit by its connection with the Tinplate Company, it has in fact incurred very heavy losses. Had this venture been backed by a company lacking the financial resources of the Burmah Oil Company, it is probable that this industry, which we consider to be of great national importance, would have ceased to exist. Moreover, even at present the Burmah Oil Company is not the only purchaser of tinplate from the Tinplate Company. The output of tinplate from 35,000 tons of tinbar is approximately 26,000 tons on the present production, while during the period of protection the average output of tinplate will be not less than 36,000 tons. Already the Company is supplying tinplate for the use of biscuit makers, ghee packers and vegetable oil manufacturers, and with any further considerable expansion of the industry, its operations must extend much beyond the supply of tinplate to the Burmah Oil Company. We cannot, therefore, subscribe to the view that the Tinplate industry in India is not a genuine industry and is thus disqualified for protection.

Burmah Oil Company "a monopoly."

223. Nor does there appear to be any justification for the contention that the losses incurred by the Tinplate Company should be met by the Burmah Oil Company. It has been urged that the Oil Company constitutes a monopoly and as such is in a position to recoup any losses incurred on the manufacture of tinplate by a slight increase in the price of oil. The argument proceeds on the assumption that the Burmah Oil Company is the only shareholder in the Tinplate Company, which assumption we have already shown to be incorrect. We have no information as to the precise position of the Burmah Oil Company in the distribution of oil in India, but assuming that it has a monopoly as is contended by the Association, it is reasonable to suppose that the present price of oil products is maintained at a level which in existing circumstances would give the Company the maximum of profit. Any attempt to recoup losses on the manufacture of tinplate by an increase in the price of oil is therefore likely to prove impracticable. Our general conclusion is that the Tinplate Company of India has established a genuine industry and that the shareholders, *viz.*, the Burmah Oil Company and the Tata Iron and Steel Company, are entitled to such protection as would ensure a reasonable return on the value of their fixed assets. We have not overlooked the fact that mistakes have been made in the past, but we think that sufficient allowance has been made for this by our reduction of capital valuation from Rs. 161·5 lakhs to Rs. 85 lakhs.

Denial of national importance of Industry.

224. The Association has also referred to the question of the national importance of the Tinplate industry. On this matter we think that there is no room for doubt. We have been informed by the military authorities that they regard tinplate as an important part of war equipment. It is used in the construction of ammunition boxes, for the manufacture of containers for motor spirit and oil, and for the provisioning of troops. It has been urged that if it were possible under war conditions to import the materials re-

quired for the manufacture of tinplate which are not produced in India, it would also be possible to import tinplate from Wales. This point is a debatable one and we can conceive of conditions in which tin from the Straits Settlements or palm oil from Africa might be imported into India, but consignments of tinplate from Wales might be liable to interception. Nor is the supply of tinplate likely to be interrupted by war conditions alone. Labour troubles in Great Britain might affect the supply and the effect of the present coal dispute on the tinplate trade appears to us a striking proof of the desirability of establishing the industry in India. Apart from the importance of securing a continuous supply of tinplate in India, we consider that the successful establishment of an industry requiring such a high degree of skill under conditions so entirely new is bound to exert a stimulating influence on industrial development generally in India, and in considering the claim of the Tinplate industry to protection, this is an aspect of the matter which in our opinion should not be ignored.

Other questions raised by the Association.

225. The Association complains of confusion in the calculations in the Board's earlier reports. The matter is of a somewhat technical nature and we have thought it more convenient to deal with it in Annexure D. It is sufficient here to state that the suggestion that if all appropriate adjustments had been made, the Board's recommendations would have been substantially different, is entirely without foundation. Other matters relevant to our enquiry which have been referred to in the Association's representation are the eventual ability of the Tinplate industry in India to stand without protection, the exemption from the protective duty of certain kinds of tinplates which are not at present manufactured in India, the question of preferential rates of duty for Welsh tinplates and the fair valuation of a works of a capacity and type similar to that of the Tinplate Company of India. These matters have already been fully discussed in the earlier chapters* of our Report and we feel it unnecessary to refer to them further.

* *Vide* paragraphs 192 to 195, 205, 206 and 208.

CHAPTER XIX.

Summary.

Summary of conclusions.

226. We summarize our conclusions as follows:—

(1) The Tinplate industry has effected remarkable progress and fully justified the policy of discriminating protection adopted by Government. Production has increased from 9,000 tons in 1923 to approximately 35,000 tons in 1926. Works costs have fallen from Rs. 459 per ton in 1924 to Rs. 313 per ton in the first seven months of 1926. A notable increase in the efficiency and skill of Indian labour has been achieved, and within three years of the commencement of operations it has been found possible to reduce the number of employees by approximately one-third. Financially, however, the results have not been so successful. The Tinplate Company of India has incurred heavy losses which we should estimate for the years 1923 to 1925 inclusive at Rs. 50 lakhs. Recent financial results, however, are more encouraging, and, with a reasonable measure of protection, we think the industry should be established on a firm basis in the near future.

(2) On a careful consideration of the possibility of effecting economy in manufacture during the period of protection, we have found it necessary to reduce the Company's estimate of works costs at the end of seven years from Rs. 285 per ton to Rs. 279.

(3) After considering the estimate of the present day valuation of the plant submitted by the Tinplate Company and the estimate of erecting a plant of similar type and capacity in Wales furnished by the Welsh Plate and Sheet Manufacturers' Association, we have formed the conclusion that a fair replacement value of the Company's works and town is about Rs. 85 lakhs, in place of Rs. 162 lakhs, the amount at which it at present stands in the Company's books.

(4) With the adjustments necessitated on account of freight, boxes for packing and wasters, the fair selling price which we recommend is as follows:—

	Rs. Per ton.
Works cost	293
Overhead charges	22·76
Manufacturer's profit	18·09
Adjustments—	
Freight	12·76
Wasters	18
Packing	2·8
TOTAL	368·22

(5) We have based our estimate of the future selling price of imported tinplate, *viz.*, Rs. 320 per ton without duty, on the prices prevailing in the early months of 1926, disregarding the rise which has occurred subsequently on account of the coal stoppage in Great Britain.

(6) The difference between the fair selling price of Indian tinplate and the future selling price of imported tinplate is the measure of the duty which should be imposed and we accordingly recommend a reduction of the present scale of duty from Rs. 85 to Rs. 48 per ton.

(7) We are unable to support the claim that varieties of tinplate not manufactured in India should be exempt from the protective duty. Special varieties of tinplate bear a higher valuation and the duty which we propose will not be greatly in excess of a 10 per cent. *ad valorem* duty for such varieties. From the economic point of view we cannot agree to any discrimination of duty in favour of Wales, since it is with Welsh tinplate that the Indian product has mainly to compete.

(8) We recommend that the period for which protection should be continued be fixed at seven years.

(9) We are of opinion that at the end of that period the industry should be able to stand without any protection other than that afforded by the revenue duty.

(10) Finally, we consider that there are good grounds for believing that the industry will eventually be able to face competition even if the fiscal system of the country is so organized as to result in the reduction or even abolition of the revenue duty.

P. P. GINWALA,
President.

J. MATTHAI.
Member.

A. E. MATHIAS,
Member.

C. B. B. CLEE,
Secretary.

14th December, 1926.

Part III.—Annexures and Appendices.

ANNEXURE A.

Order for 53 spans of 94 ft. 6 in. placed in England by the North Western Railway.

At the end of the year 1925 an order was placed in England through the Chief Controller of Stores, Delhi, and the Director General of Stores, London, for 53 girders of 94 ft. 6 in. each for the North Western Railway. We have obtained details of the duty-paid landed price of these girders both from the Chief Controller and from the Railway authorities. There is, however, a wide divergence in the prices furnished. The North Western Railway authorities originally informed us that the duty-paid landed price amounted to Rs. 243-6-8 per ton. On the other hand the figure supplied by the Chief Controller was Rs. 337-8-3 per ton. It appeared, however, that the Railway figure had been arrived at by including Customs duty at only 10 per cent. instead of 25 per cent. *ad valorem*, which is the correct duty on fabricated steel. On a further reference it was explained by the Railway that " the Customs duty was charged at 10 per cent. *ad valorem* according to item No. 101 of the Tariff Valuation Schedule II for 7 months from June to December, 1925, which reads as follows:—' Railway materials for permanent way and rolling stock, etc., etc., 10 per cent. *ad valorem*' ". The items under this entry are clearly set forth in the Tariff Schedule and do not include bridge girders, which obviously fall under " structures " according to item No. 91 of the Schedule, against which the duty is entered at 25 per cent. *ad valorem*. An amended statement was, however, supplied to us by the Railway authorities in which the duty-paid landed price is given as Rs. 289-2-7 per ton. There is still a large difference between this price and that given by the Chief Controller. The explanation lies in the different estimates of the sea freight. In the one case it is assumed that each girder will be despatched in several pieces, the minimum rate of freight per ton being chargeable on each. In the other case a higher freight is taken, it being assumed that each girder will be shipped in much larger pieces.

There are two points in this case which call for remark. In paragraph 121 of our first report on the grant of protection we emphasized the importance of correct calculation of duty in comparing foreign and Indian tenders. If the Railway authorities calculate the charges on account of duty on fabricated girders at 10 per cent. instead of 25 per cent. *ad valorem*, there is an obvious risk that orders which should be placed with Indian manufacturers will go abroad. Further, if it is assumed that girders of this size are shipped in comparatively small pieces and a low rate of freight is taken accordingly, some allowance should be made in comparing Indian and foreign tenders, for the extra cost of assembling and riveting the imported girders in India. It is obvious from the discrepancies in the two prices that when the tenders were compared with Messrs. Burn and Company's tender, no exact estimate of the freight was possible and we consider that when calling for

tenders from abroad, every effort should be made to ascertain the size and weight of the pieces in which girders will be shipped, so that accurate estimates of the freight and erection charges may be possible when the tenders are compared with those of Indian manufacturers.

ANNEXURE B.

Proposed sections of the Tariff Schedule embodying the Tariff Board's recommendations.

The following draft is intended to summarise the whole of the recommendations and to show their relation to the non-protected items as classified in the Tariff Schedule issued periodically by the Department of Commercial Intelligence and Statistics. It should be noted that (*a*) the duties on "nails, wire or French" and on "wire, all other kinds" and the duties on railway wagons, etc., are the existing duties and are not recommendations for the period commencing 1st April, 1927; the Board's findings in respect of these articles will be issued later; and (*b*) the tariff valuations and rates of duty applicable to non-protected articles are copied from the issue of the Schedule for the year 1926 and are not recommendations by the Board.

As is explained in Chapter VI of the Report it is recommended that the basic duties be applied to imports from all sources and the additional duties only to imports from countries other than the United Kingdom.

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
	CONVEYANCES.		Rs. A.			
67	Coal-tubs, tipping wagons and the like conveyances designed for use on light rail track, if adapted to be worked by manual or animal labour and if made mainly of iron or steel; and component parts thereof made of iron or steel.	..	*Ad valorem.*	...	17 per cent. (minimum Rs. 22 per ton).	Rs. 13 per ton.
	Tramcars, motor-omnibuses, motor-lorries, motor-vans, passenger lifts, carriages, carts, jinrikshas, bath chairs, perambulators, trucks, wheelbarrows, bicycles, tricycles, and all other sorts of conveyances not otherwise specified, and component parts and accessories thereof, except such parts and accessories of the motor vehicles above mentioned as are also adapted for use as parts or accessories of motor cars, motor cycles, or motor scooters (see No. 68).	...	,,	15 per cent.	...	
75	Hardware, ironmongery and tools, all sorts, not otherwise specified.	...	,,	15 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
90	METALS, IRON AND STEEL.		Rs. A.			
	Iron—					
	Angle, channel and tee, not fabricated—					
	Crown and superior qualities.	ton	200 0	10 per cent.	...	...
	Other kinds . . .	,,	Specific	...	Rs. 19 . .	Rs. 11.
	Other kinds if galvanized, tinned or lead coated.	,,	200 0	10 per cent.	...	...
	Angle, channel and tee, fabricated.	..	*Ad valorem.*	...	17 per cent. (minimum Rs. 21 per ton).	Rs. 12 per ton.
	Bar and rod—					
	Qualities superior to Grade A of the British Engineering Standard Association.	ton	350 0	10 per cent.	...	...
	Grade A of the British Engineering Standard Association and Crown quality and intermediate qualities—					
	Over ½ inch in diameter or thickness.	,,	190 0	10 per cent.	...	...
	½ inch and under in diameter or thickness.	,,	220 0	10 per cent.	...	...
	Common, not galvanized, tinned or lead coated—					
	(*a*) If of the shapes and dimensions specified under No. for steel bar and rod in the Statutory Schedule.	,,	Specific	...	Rs. 26 . .	Rs. 11.
	(*b*) Other sorts .	...	*Ad valorem.*	10 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
			Rs. A.			
	METALS, IRON AND STEEL—*contd.*					
	Iron—*contd.*					
	Bar and rod—*contd.*					
	Common, if galvanized, tinned or lead coated.	ton	180 0	10 per cent.	...	...
	All other sorts . .	...	*Ad valorem.*	10 per cent.	...	...
	Pig	ton	80 0	10 per cent.	...	...
	Rice bowls	cwt.	22 0	10 per cent.	...	...
	Spiegeleisen, ferro-manganese, ferro-silicon and other ferro-alloys.	...	*Ad valorem.*	10 per cent.	...	...
91	Steel—					
	Alloy steel, all kinds .	...	*Ad valorem.*	10 per cent.	...	...
	Angle and tee, if galvanized, tinned or lead coated—					
	Not fabricated . .	ton	180 0	10 per cent.	...	...
	If fabricated .	...	*Ad valorem.*	10 per cent.	...	...
	Angle and tee, all other sorts, and beam, channel, zed, trough, piling and other sections not otherwise specified—					
	Not fabricated . .	ton	Specific	...	Rs. 19	Rs. 11.
	If fabricated . .	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 21 per ton).	Rs. 12 per ton.
	Bar and rod—					
	Planished or polished, including bright steel shafting.	ton	240 0	10 per cent.	...	...
	Galvanized or coated with other metals.	„	180 0	10 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
			Rs. A.			
	METALS, IRON AND STEEL—*contd.*					
	Steel—*contd.*					
	Bar and rod—*contd.*					
	Kinds or qualities other than alloy, crucible, shear, blister or tub steel if having, after being normalised, a Brinell hardness number not exceeding 200 and if of the following shapes :—rounds not under ¼ inch diameter ; squares not under ¼ inch side ; flats other than those which are either (*a*) under 1 inch wide and not over ⅛ inch thick, or (*b*) not under 8 inches wide and not over ¼ inch thick ; ovals if the dimension of the major axis is less than twice that of the minor axis ; shapes designed for the reinforcing of concrete if the smallest dimension is not under ¼ inch.	ton	Specific	...	Rs. 26	Rs. 11.
	All sorts not otherwise specified.	...	*Ad valorem.*	10 per cent.	...	...
	Crucible, shear, blister and tub steel, all kinds.	..	*Ad valorem.*	10 per. cent.	...	...
	Ingots, blooms and billets.	...	*Ad valorem*	10 per cent.	...	...
	Slabs 1½ inch thick or over.	..	*Ad valorem.*	10 per cent.	...	...
	Steel for springs and for cutting tools made by any process if not specified under 'bar and rod'.	...	*Ad valorem.*	10 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
	METALS, IRON AND STEEL —*contd.*		Rs. A.			
	Steel—*concld.*					
	Structures fabricated partially or wholly, not otherwise specified, if made mainly or wholly of steel bars, sections, plates or sheets, for the construction of buildings, bridges, tanks, well-curbs, trestles, towers and similar structures or for parts therefor, but not including builders' hardware (see No. 75) or articles specified in Nos. 67, 87, 88 or 136.	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 22 per ton).	Rs. 13 per ton.
	Tinplates and tinned sheets, including tin taggers, and cuttings of such plates, sheets or taggers.	ton	Specific	...	Rs. 48	..
92	Iron or Steel—					
	Anchors and cables . .	...	*Ad valorem.*	10 per cent.	...	...
	Bolts and nuts, including hook bolts and nuts for roofing.	..	*Ad valorem.*	10 per cent.	...	..
	Discs and Circles—					
	(*a*) Cut from plates or sheets of the kinds specified under Nos. 147 and 148 in the Statutory Schedule—					
	Galvanized . .	ton	Specific	...	Rs. 38 .	...
	Not galvanized, not under ⅛ inch thick.	,,	,,	...	,, 20 .	Rs. 16.
	Not galvanized, under ⅛ inch thick.	,,	,,	...	,, 35 .	,, 24
	(*b*) Others . . .	...	*Ad valorem.*	10 per cent.	...	...
	Expanded metal . .	...	*Ad valorem.*	10 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
	METALS, IRON AND STEEL —*contd.*		Rs. A.			
	Iron or Steel—*contd.*					
	Hoops and Strips—					
	Having a Brinell hardness number of 143 or over, or being coated with other metals.	ton	215 0	10 per cent.	...	...
	Having a Brinell hardness number of less than 143 and not being coated with other metals.	,,	170 0	10 per cent.	...	...
	Nails, Rivets and Washers, all sorts—					
	Nails, wire or French	cwt.	Specific	...	Rs. 3	...
	Nails, rose, deck and flat-headed.	,,	18 0	10 per cent.	...	...
	Nails, bullock and horse-shoe.	,,	50 0	10 per cent.	...	...
	Panel pins, 16 gauge and smaller.	,,	18 0	10 per cent.	...	...
	Nails, other kinds, including galvanized, tinned or lead coated, and tacks.	,,	25 0	10 per cent	...	...
	Rivets, boilermakers' or structural, if black.	,,	12 0	10 per cent.	...	...
	Rivets, other sorts	...	*Ad valorem.*	10 per cent.	...	...
	Washers, black, structural.	cwt.	14 0	10 per cent.	...	...
	Washers, other sorts, including galvanized, nickel plated, tinned or lead coated and dome-shaped spring or locking washers.	...	*Ad valorem.*	10 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
			Rs. A.			
	METALS, IRON AND STEEL—*contd*					
	Iron or Steel—*contd.*					
	Pipes and Tubes, and fittings therefor, that is to say, bends, boots, elbows, tees, sockets, flanges, plugs, valves, cocks and the like—					
	If rivetted or otherwise built up of plates or sheets—					
	(*a*) Galvanized .	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 42 per ton).	...
	(*b*) Not galvanized, not under $\frac{1}{8}$ inch thick.	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 22 per ton).	Rs. 18 per ton.
	(*c*) Not galvanized, under $\frac{1}{8}$ inch thick.	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 39 per ton).	Rs. 26 per ton.
	All other kinds . .	...	*Ad valorem.*	10 per cent.	...	..
	Plates not under $\frac{1}{8}$ inch thick, including sheets $\frac{1}{8}$ inch thick or over—					
	Boiler fire-box and special qualities, not fabricated.	ton	300 0	10 per cent.	...	...
	Galvanized, plain, not fabricated.	,,	280 0	10 per cent.	...	...
	Cast iron, whether fabricated or not.	...	*Ad valorem.*	10 per cent.	...	...
	Ship, tank, bridge, chequered and common and cuttings of such plates, not fabricated.	ton	Specific	...	Rs. 20	Rs. 16.
	Cuttings, all kinds not otherwise specified.	...	*Ad valorem.*	10 per cent.	...	...
	All kinds, fabricated, not otherwise specified.	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 22 per ton).	Rs. 18 per ton.

Serial No.	Names of Articles.	Per	Tariff valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
	METALS, IRON AND STEEL—*contd.*		Rs. A.			
	Iron or Steel—*contd.*					
	Railway Track Material—					
	Rails 30 lbs. and over per yard.	ton	Specific	...	Rs. 13	...
	Fishplates for rails 30 lbs. and over per yard.	...	*Ad valorem.*	...	10 per cent. (minimum Rs. 6 per ton).	...
	Rails under 30 lbs. per yard, and fishplates therefor.	ton	Specific	...	Rs. 26	Rs. 11.
	Bearing plates and lever boxes.	...	*Ad valorem.*	10 per cent.	...	...
	Spikes and tie-bars	ton	Specific	..	Rs. 26	Rs. 11.
	Sleepers and keys, and distance-pieces and the like therefor—					
	(*a*) Cast iron	...	*Ad valorem.*	10 per cent.	...	...
	(*b*) Steel	ton	Specific	...	Rs. 10	...
	Switches, crossings and the like material not made of alloy steel—					
	(*a*) for rails 30 lbs. and over per yard.	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 14 per ton).	...
	(*b*) for rails under 30 lbs. per yard.	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 29 per ton).	Rs. 12 per ton.
	Sheets under ⅛ inch thick, not fabricated—					
	Galvanized, all kinds and shapes produced by rolling or pressing, including cuttings.	ton	Specific	...	Rs. 38	...
	Coated with metals other than tin or zinc and cuttings of such sheets.	...	*Ad valorem.*	10 per cent	...	...
	All other sorts, including cuttings not otherwise specified	ton	Specific	...	Rs. 35	Rs. 24.

Serial No.	Names of Articles.	Per	Tariff Valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
	METALS, IRON AND STEEL—*contd.*		Rs. A.			
	Iron or Steel—*contd.*					
	Sheets under ⅛ inch thick, fabricated—					
	Galvanized	...	*Ad valorem.*	..	17 per cent. (minimum Rs. 42 per ton).	...
	Coated with metals other than tin or zinc.	...	*Ad valorem.*	...	17 per cent.	...
	All other sorts	...	*Ad valorem.*	...	17 per cent. (minimum Rs. 39 per ton).	Rs. 26 per ton.
	Tramway Track Material—					
	Rails, fish-plates, tie-bars, switches, crossings and the like materials of shapes and sizes specially adapted to tramway track, provided that rails the heads of which are not grooved and fish-plates, tie-bars, switches, crossings and the like materials for such rails shall be assessed as Railway Track Material.	...	*Ad valorem.*	10 per cent.	...	...
	Wire—					
	Barbed and stranded fencing.	...	*Ad valorem.*	10 per cent.	...	...
	Netting	...	*Ad valorem.*	15 per cent.	...	...
	All other kinds	Ton.	Specific.	...	Rs. 60.	...
	Wire rope	...	*Ad valorem.*	10 per cent.	...	...
	Iron or steel designed for the re-inforcing of concrete, not otherwise specified (see Nos. 90 and 91).	..	*Ad valorem.*	10 per cent.	...	...
	Iron or steel, all other kinds not otherwise specified.	...	*Ad valorem.*	15 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff Valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
			Rs. A.			
	METALS, IRON AND STEEL—*concld.*					
93	Iron and Steel Cans or Drums—					
	When imported containing kerosene and motor spirit which are separately assessed to duty under Nos. 34 and 34A., namely:—					
	Cans, tinned, of four gallons capacity.	Can.	0 8	15 per cent.	...	...
	Cans or drums, not tinned, of two gallons capacity—					
	(*a*) with faucet caps .	Can or drum	1 8	15 per cent	..	..
	(*b*) ordinary .	Can or drum.	0 6	15 per cent.	..	...
	Drums of four gallons capacity—					
	(*a*) with faucet caps .	Drum.	2 3	15 per cent.	...	...
	(*b*) ordinary . .	Drum.	1 8	15 per cent.	...	...
	Iron or steel cans or drums, other sorts.	...	*Ad valorem.*	15 per cent.	...	..
	RAILWAY PLANT AND ROLLING STOCK.					
101	Railway materials for permanent way and rolling stock, namely:—					
	Bearing-plates, fishbolts and nuts, chairs, interlocking apparatus, brake-gear, shunting skids, couplings and springs, signals, turn-tables, weigh-bridges, carriages, wagons, traversers, rail removers, scooters, trollies, trucks, and component parts thereof; switches, crossings, and the like material made of alloy steel; also cranes and water tanks, when imported by, or under the orders of, a railway company.	...	*Ad valorem.*	10 per cent.	...	...

Serial No.	Names of Articles.	Per	Tariff Valuation.	Duty.		
				Non-protective.	Protective.	
					Basic.	Additional.
			Rs. A.			
	RAILWAY PLANT AND ROLLING STOCK—*contd.*					
101	Railway materials for permanent way and rolling stock, namely:—*contd.*					
	Provided that for the purpose of this entry "railway" means a line of railway subject to the provisions of the Indian Railways Act, 1890, and includes a railway constructed in a State in India and also such tramways as the Governor-General in Council may, by notification in the Gazette of India, specifically include therein:					
	Provided also that nothing shall be deemed to be dutiable hereunder which is dutiable under No. 87 or No. 88.					
102	Component parts of railway materials, as defined in No. 101, namely, such parts only as are essential for the working of railways and have been given for that purpose some special shape or quality which would not be essential for their use for any other purpose:	...	*Ad valorem.*	10 per cent.	...	..
	Provided that articles which do not satisfy this condition shall also be deemed to be component parts of the railway material to which they belong, if they are essential to its operation and are imported with it in such quantities as may appear to the Collector of Customs to be reasonable.					
	Provided also that nothing shall be deemed to be dutiable hereunder which is described under No. 90 or No. 91 or No. 92.					

67. *CONVEYANCES.*—

No change has been made in the classification, but the duty proposed in Chapter X has been inserted against the protected item.

75. *HARDWARE, ETC.*—

No change. The Tata Iron and Steel Company withdrew its application for protective duties on picks, kodalies, etc.

90. *IRON.*—

No change in classification. The protective duties now recommended are substituted for those at present in force. The definition of protected iron bar and rod has been amended to correspond with that of protected steel bar and rod. Protective duties are not recommended for any items which are at present not protected.

91. *STEEL.*—

Alloy steel.—No change.

Angle and tee coated with other metals.—No change.

Angle, beam and other sections.—The word 'trough' has been substituted for 'troughplate' and 'sections not otherwise specified' for 'structural sections'. The duties now recommended for fabricated and non-fabricated sections have been substituted for the existing duties.

Bar and Rod.—The present definition of protected bars has been changed so as (*a*) to exclude certain sizes and shapes for which protective duties are not required and (*b*) to leave no room for uncertainty as to the kinds of bars for which protection is required. No other change is made under this head.

Crucible, etc.—No change.

Ingots, etc.—No change.

Railway Track Material.—Removed to 'Iron or Steel'.

Slabs.—No change.

Steel for Springs.—No change except that consequential on the redefinition of protected bar and rod.

Structures, etc.—No change in definition. The duty now recommended is substituted for the existing duty.

Tinplates, etc.—No change except that cuttings are to be subjected to the same specific duties as the sheets, etc., from which they are cut and that the duty now recommended is substituted for the existing duty.

Tramway Track Material.—Removed to 'Iron or Steel'.

92. *IRON OR STEEL.—*

Anchors and cables.—No change.

Bolts and nuts, etc.—No change.

Discs and circles.—The duties now recommended are substituted for the present duties. As the new duty on plates is different from that on sheets it has been necessary to divide the item 'not galvanized'.

Expanded metal.—No change.

Hoops and strips.—No change.

Nails, etc.—No change.

Pipes and tubes.—No change except in respect of the item 'if rivetted, etc.' It has been necessary to divide this item in order to indicate the differences in the minimum basic duties and in the additional duties.

Plates.—Cast iron plates now form a separate item in order to make it clear that they are not to be subject to the protective duties. Chequered plates are now included in the definition of protected plates and cuttings of protected plates are to be subjected to the same duties as the kinds of plates from which they are cut. No change is made in respect of galvanized plates or of plates of special qualities. The protective duties now recommended are substituted for those at present in force.

Railway Track Material.—Fishplates for medium and heavy rails now form a separate item as the duty proposed is different from that on rails. A protective duty on steel sleepers is proposed: it is therefore necessary that they be shown separately from cast iron sleepers which remain subject to the revenue duty. Switches for light rails are now entered separately from those for medium and heavy rails as the minimum basic duties and the additional duties differ.

Sheets.—The items have been re-classified as it is necessary that protective duties shall be applied to all sheets other than those coated with metals other than tin or zinc. The duty on galvanized sheet is different from that on other protected sheets. In all cases cuttings are to be subjected to the same duties as the kinds of sheets from which they are cut. The different classes of fabricated sheets are classified separately in order to indicate the differences in the minimum basic duties and the additional duties.

Tramway Track Material.—No change except that it is made clear that rails the heads of which are not grooved and fittings for such rails are to be treated for tariff purposes as Railway Track Material.

Wire.—No change.

Wire rope.—No change.

Iron or steel for the re-inforcing of concrete, etc.—No change.

Iron or steel, all other kinds.—No change.

93. *IRON OR STEEL.—*

Cans or drums.—No change.

101. *RAILWAY MATERIALS, ETC.*—

No change except that sleepers and fastenings therefor are removed to indicate that they are to be treated as Railway Track Material under 'Iron or Steel'.

102. *COMPONENT PARTS OF RAILWAY MATERIALS.*—

A proviso is added for the purpose of securing that such component parts as are of protected kinds of steel shall be subject to protective duties.

ANNEXURE C.

Method of calculating c.i.f. prices.

The measure of the protective duty is the difference between the price of imported tinplate and what we consider to be a fair selling price for tinplate manufactured in India. It is obvious, however, that no comparison of prices can be valid unless it can be shown that the articles compared are the same and that all adjustments of freight, packing, etc., which are necessary before imported and Indian tinplate can be placed on the same market, have been taken into account. We have already in our report explained that the fair selling price includes allowances for railway freight, for the reduced price received for " wasters " and certain minor adjustments. It is now necessary to define precisely what is meant in our Report by the term " Price c.i.f. Calcutta ".

The following items are included therein:—

(*a*) *The price f.o.b. Bristol Channel port quoted for the kinds of plate (in the ordinary trade packing,* i.e., *wooden boxes, for which no " extra " is charged) purchased by the Burmah Oil Company.*—We accept this as a satisfactory basis because these plates form by far the greater part of the product of the Tinplate Company. These " oil plates " are practically of the same thickness, but of two different sizes, namely $18\frac{3}{4}'' \times 14''$ and $20'' \times 10''$. They are used in the ratio of two sheets to one and the average price is suitably " weighted " although the prices per ton of the two sizes are usually almost identical, the difference being only 8*d.* per ton in the average published quotations for January, 1926.

(*b*) *The freight from the United Kingdom to Calcutta, insurance and brokerage charges.*

(*c*) *Adjustments for the cost of packing materials.*—Plates imported by the Oil Company are packed in a tin (*i.e.*, tinplate) case enclosed in an ordinary wooden box which is specially bound with steel hoop. For the tin lining an extra of about 9*d.* has to be paid to the British exporter and for the hooping a further extra of about 3*d.* per box, *i.e.*, per 110 lbs. of $18\frac{3}{4}'' \times 14''$ plates or per 156 lbs. of $20'' \times 10''$ plates. The Oil Company has found that for the journey from Golmuri to its can factories in India, the tin case alone is sufficient and therefore no hooping or wooden box is used. As there was some uncertainty regarding the application of the relative clause in the agreement between the Tinplate Company and the Oil Company to this question of " extras ", it has been agreed that the former company shall receive the full " extra " for the tin casing (which

is supplied) and half the " extra " for the hooping (which is not supplied) and that the Oil Company shall be credited with half the cost (which has been taken to be $5\frac{1}{2}d.$) of a wooden box, since this is included in the basic Welsh price but is not supplied by the Tinplate Company. This credit to the Oil Company is given only in the final adjustment of accounts between the two companies, but the extras for tin lining and hooping are included in the invoice prices. .

These " extras ", but not the credit, are taken into account in the figures of import prices (both f.o.b. and c.i.f.) shown in the Company's Statement X (*a*), which are found when checked in this way to agree with the published quotations (f.o.b.). We have already explained that the credit on account of half the cost of the wooden box has been taken into account in the fair selling price.

ANNEXURE D.

Allegation of "confusion" in the Board's earlier reports.

The representation of the Welsh Plate and Sheet Manufacturers' Association states that there was "confusion in the calculations" on which the earlier reports of the Board were based, defects being alleged in respect of—

(*a*) the unit of weight on which the cost of production was calculated;

(*b*) the price received by the Tinplate Company per box; and

(*c*) the relation between the weight per box and the price per box.

(*a*) *Cost of production.*—The Association points out that the Welsh practice is to equate all production to that of a basis box of 112 sheets, each 20 inches by 14 inches, of a total weight of 108 lbs. This practice has been consistently followed by the Board in its reports. The suggestion that either the Board or the Tinplate Company has used a basis of 106 lbs. or any other basis is incorrect. The suggestion of confusion appears to be based mainly on the fact that in letters to the Government of India, dated 13th January, and 30th April, 1925, (pages 123 and 126 of the evidence volume of the 1925 enquiry) the Tinplate Company gave its production costs as Rs. 21·94 and Rs. 18·08 per box respectively. The Association ascribes the difference to an error in the basis of the earlier calculation and states that "such an enormous difference in so short a time cannot be accounted for by any specific factors." A more careful study of the position would, however, have shown that a large reduction of costs was to be expected at so early a stage of the Company's development, since the first figure was the average cost for January to September, 1924, and the latter figure the average for January to March, 1925. The method used in the calculations on which the report of February, 1924, was based for allowing for the loss on wasters was the only method available at the time of the enquiry and there is no reason to believe that it did not correctly represent the loss.

(*b*) *Price received by the Tinplate Company.*—While it is true that the calculations were not adjusted for the charge for tin lining and hooping, the Association is wrong in stating that the result of such an adjustment would have been a reduction of Rs. 20 per ton in the duty; the reduction would have been Rs. 8 per ton.* Adjustments of this kind would have been inappropriate at the time of the first enquiry, when manufacture had only just commenced and the estimates of the works costs were subject to great uncertainty. Had circumstances justified adjustments of a relatively minor kind, the effect might well have been slightly to raise

* The details of the adjustment are shown in Annexure C.

rather than to lower the duty recommended, for it would have been necessary to set against the adjustment for packing an adjustment for freight from Golmuri to the ports, which has been found in the present enquiry to require an addition of nearly Rs. 13 per ton to the costs.

(c) *Relation between weight and price.*—The Tinplate Company's statement No. X (page 28, Vol. II of evidence given during the first enquiry) shows that the Company compared the prices it would receive with its costs of production on the uniform basis of a unit of weight of 108 lbs. This was followed throughout the Board's calculations. It should thus have been clear to the Association from the evidence that there was no foundation for the suggestion that the weight of the box used in ascertaining prices was different from that used in the calculation of the works costs. The Association points out that the boxes of tinplate of " oil sizes," which contain a greater weight of plate than the basis boxes, are also higher in price. While this was known to the Board, it was not realized that there was any appreciable difference in the prices per unit of weight and to that extent the Board's previous calculations were in error, since they were based on the price per unit weight appropriate to the basis box. The normal difference in price quoted by the Association is equivalent to less than Rs. 5 per ton. On August 4, 1923 (the basis of the Board's first calculation) the difference was rather over Rs. 6 per ton and on July 10 1925 (the basis of the second calculations) the difference was less than Rs. 6 per ton.

It will thus be seen that if the prices had been calculated on the quotations for " oil plates " and if an adjustment had been made not only for the method of packing but also for the internal freight, as would have been equally necessary, the effect would have been to lower the duties recommended in the earlier reports by only one rupee per ton.

ANNEXURE E.

Details of agreement between the Tinplate Company of India, Limited and the Tata Iron and Steel Company, regarding sale of steel required by the Tinplate Company of India, Limited.

(1)

Letter from the Tinplate Company of India, Limited, dated 5th October 1926.

With reference to the undertaking given you in Shillong that this Company and the Tata Iron and Steel Company would endeavour to come to an arrangement regarding their present contract for the supplies of steel, we have the honour to inform you that an agreement has been made for the purchase of this Company's requirements of steel from the Tata Iron and Steel Company, Limited at Rs. 83 per ton during the period of protection. A further agreement has been made regarding subsequent supplies for the remaining period of the present contract. We have written to Messrs. The Tata Iron and Steel Company, Limited, requesting them to confirm to you that this arrangement has been made.

(2)

Letter from the Tata Iron and Steel Company, Limited, dated 12th October 1926.

With reference to the undertaking given you in Shillong that the Company and the Tinplate Company of India, Limited would endeavour to come to an arrangement regarding their present contract for the supplies of steel, we have the honour to inform you that an agreement has been made for the sale to the Tinplate Company of their requirements of steel by this Company at Rs. 83 per ton during the period of protection. A further agreement has been made regarding subsequent supplies for the remaining period of the present contract. We understand that the Tinplate Company of India, Limited, have already informed you of this and they have asked us to confirm it to you.

The agreement between us is that the price of the raw material, namely, Rs. 83 per ton shall be paid either f.o.r. the Steel Company's works or f.o.r. the Tinplate Company's works according as the price taken by the Tariff Board in their Report on protection to the tinplate industry is Rs. 83 *plus* the cost of transport from the Steel Company's works to the Tinplate Company's works or Rs. 83 f.o.r. the Tinplate Company's works. The difference in the price of steel to this Company will be 12 to 14 annas which is the cost of transport between our works and the Tinplate Company's works. As our calculations have throughout been based on the prices received by the Steel Company f.o.r. works, we submit that the price of the raw material should be calculated f.o.r. the Steel Company's works which will slightly increase the price to this Company and we trust the Tariff Board will consider this.

Appendix I.

Table A.—Steel Angles and Tees.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	18,257	7,353	6,549	...	...	...	...	...	32,159*	* Includes Spring Steel.
1913 . . .	16,972	6,352	6,334	...	330	2	...	...	29,990*	
1920 . . .	10,496	...	219	...	3,759	355	...	...	14,829	
1921 . . .	21,267	475	2,418	14	3,272	100	...	...	27,546	
1922 . . .	4,665	1,742	6,484	1,561	3,406	754	...	...	18,614	
1923 . . .	8,787	1,860	9,842	619	134	564	...	...	21,806	
1924 . . .	8,277	2,022	14,705	369	12	942	...	...	26,327	
1925 . . .	7,925	2,033	23,509	1,919	...	2,091	28,177	9,300	37,477	
1926 . .	10,439	2,253	20,361	7,561	...	1,702	42,316	86	42,402	

N.B.—This table does not take into account steel imported on behalf of Government.

Appendix I.

Table A$_c$1.—Steel Angles and Tees

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	19,816	7,138	2,667	1,521	1,017	32,159*	* Includes Spring Steel.
1913	15,427	9,234	1,966	2,225	1,138	29,990*	
1920	8,115	4,790	462	422	1,040	14,829	
1921	15,593	7,574	2,593	1,092	694	27,546	
1922	6,530	8,757	1,946	718	663	18,614	
1923	10,133	5,915	3,030	1,595	1,153	21,806	
1924	11,653	8,390	3,232	1,869	1,183	26,327	
1925	19,144	8,580	5,442	2,206	2,105	37,477	
1926	20,688	10,517	5,619	3,181	2,397	42,402	

N.B.—This table does not take into account steel imported on behalf of Government.

Appendix I.

Table B.—Steel Bars (other than Cast Steel).

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	12,878	56,809	51,730	106	24	310	...	...	121,857*	* Includes Channels.
1913 . . .	19,515	39,840	58,603	...	889	739	...	...	119,586*	
1920 . . .	22,206	773	7,979	110	34,770	2,251	...	...	68,089	
1921 . . .	72,032	9,742	39,549	551	16,247	4,054	...	...	142,175	
1922 . . .	12,948	19,683	72,794	4,727	12,592	8,664	...	...	131,403	
1923 . . .	19,215	38,370	112,868	3,568	5,090	8,893	...	...	188,004	
1924 . . .	15,425	27,348	110,090	2,476	...	11,065	...	...	166,404	
1925 . . .	14,582	23,904	127,538	4,247	...	13,196	116,690	66,777	183,467	
1926 . . .	14,213	14,475	76,921	10,388	22	9,745	114,797	10,967	125,764	

N. B.—This table does not take into account steel imported on behalf of Government.

Appendix I.

Table B 1.—Steel Bars (other than Cast Steel).

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	44,551	51,301	17,063	7,381	1,561	121,857*	*Includes Channels.
1913	52,951	42,370	15,592	6,053	2,620	119,586*	
1920	37,618	19,670	5,525	2,832	2,444	68,089	
1921	68,689	42,855	14,850	10,291	5,490	142,175	
1922	37,238	62,487	14,480	14,221	2,977	131,403	
1923	50,638	79,806	26,922	26,581	4,057	188,004	
1924	49,646	70,097	15,490	26,268	4,903	166,404	
1925	53,307	75,747	18,398	26,427	9,588	183,467	
1926	37,022	42,766	18,470	20,933	6,573	125,764	

N. B.—This table does not take into account steel imported on behalf of Government.

Appendix I.

Table C.—Steel Beams, Channels, Pillars, Girders and Bridge work.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	43,510	12,898	4,803	2,162	422	30	...	...	63,825*	* Channels not included.
1913 . . .	24,713	16,686	10,788	1,949	317	100	...	...	54,553*	
1920 . . .	20,435	...	...	...	2,205	28	...	...	22,668*	
1921 . . .	63,696	210	7,846	5	6,471	132	...	...	78,360*	
1922 . . .	21,720	1,975	29,050	1,408	2,357	1,527	...	...	58,037*	
1923 . . .	30,686	3,237	30,488	982	306	534	...	...	66,233*	
1924 . . .	38,764	1,527	38,850	1,209	441	690	...	...	81,481*	
1925 . . .	32,591	1,586	38,543	6,185	199	1,775	55,664	25,215	80,879	
1926 . . .	33,915	5,072	41,617	16,132	288	1,056	12,218(*a*) 85,862(*b*)	...	98,080	(*a*) Protected fabricated. (*b*) Protected other.

N. B.—This table does not take into account steel imported on behalf of Government, but in 1925-26 it includes steel imported by the railways.

Appendix I.

Table C-1.—Steel Beams, Channels, Pillars, Girders and Bridge work.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	28,063	18,073	11,946	2,516	3,227	63,825	
1913	14,975	22,282	11,758	4,256	1,282	54,553	
1920	13,753	5,829	1,124	1,083	879	22,668	
1921	41,400	21,747	7,729	4,357	3,127	78,360	
1922	22,136	19,570	9,922	3,548	2,861	58,037	
1923	20,764	26,787	12,251	3,131	3,300	66,233	
1924	28,611	27,249	13,410	5,013	3,265	81,481	
1925	30,084	16,171	15,006	9,912	7,706	80,879	
1926	39,682	19,764	22,767	9,021	6,846	98,080	

N. B.—This table does not take into account steel imported on behalf of Government, but in 1925-26 it includes steel purchased by the railways.

Appendix I.

Table D.—Steel Hoops and Strips.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	16,561	3,815	1,392	...	549	372	...	...	22,680	
1913 . . .	16,990	3,368	1,983	...	3,782	6	...	...	26,129	
1920 . . .	16,488	...	123	...	11,265	179	...	...	28,055	
1921 . . .	18,850	224	298	...	3,746	113	...	...	23,231	
1922 . . .	12,055	1,394	1,445	107	2,632	192	...	...	17,825	
1923 . . .	17,181	1,406	4,504	141	1,724	166	...	...	25,122	
1924 . . .	24,022	384	3,906	4	2,224	324	...	...	30,864	
1925 . . .	21,420	2,879	8,836	203	1,566	983	...	...	35,451	
1926 . . .	22,144	5,813	7,379	1,028	333	2,190	...	...	38,887	

N.B.—This table does not take into account steel imported on behalf of Government.

Appendix I.

Table D$_2$-1.—Steel Hoops and Strips.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	7,182	10,859	1,497	2,297	845	22,680	
1913	8,422	11,923	2,049	2,894	841	26,129	
1920	12,715	11,822	1,442	1,498	578	28,055	
1921	6,923	12,490	1,243	1,754	821	23,231	
1922	3,928	11,157	1,338	871	531	17,825	
1923	5,180	13,749	3,254	2,084	855	25,122	
1924	8,838	16,855	2,827	1,680	664	30,864	
1925	10,797	17,248	3,838	2,810	758	35,451	
1926	11,189	19,763	5,003	2,292	640	38,887	

N.B.—This table does not take into account steel imported on behalf of Government.

Appendix I.

Table E.—Rails, Chairs and Fishplates.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	415,473	28,044	1,352	...	...	...	...	...	444,869	
1913 . . .	551,965	9,916	2,420	...	...	434	...	...	564,735	
1920 . . .	39,484	...	...	...	5,335	...	...	...	44,819	
1921 . . .	50,090	...	1,319	...	4,560	426	...	...	56,395	
1922 . . .	75,334	7,981	4,762	...	2,697	920	...	...	91,694	
1923 . . .	85,349	2,674	9,113	...	467	469	...	...	98,072	
1924 . . .	75,487	1,148	10,250	...	55	1,702	...	...	88,642	
1925 . . .	24,681	1,676	13,024	...	35	2,580	16,170	25,826	41,996	
1926 . . .	21,745	3,438	7,676	...	18	1,186	28,750	5,313	34,063	

N. B.—This table does not take into account material imported on behalf of Government, but includes those imported by the railways.

Appendix I.

Table E.21.—Rails, Chairs and Fishplates.

Imports during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	176,355	137,536	96,418	24,941	9,619	444,869	
1913	151,188	333,277	25,811	26,020	28,439	564,735	
1920	17,431	14,693	1,430	7,462	3,803	44,819	
1921	29,199	12,839	5,905	4,924	3,528	56,395	
1922	34,330	38,544	7,065	8,318	3,437	91,694	
1923	57,416	19,449	2,798	17,407	1,002	98,072	
1924	24,900	32,783	8,334	7,947	14,678	88,642	
1925	9,857	13,842	8,511	5,416	4,370	41,996	
1926	6,425	9,137	3,327	10,774	4,400	34,063	

N. B.—This table does not take into account material imported on behalf of Government, but includes those imported by the railways.

Appendix I.

Table F.—Galvanized Sheets (Corrugated and Plain).

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	150,193	1,009	272	...	10,280	35	...	...	161,789	
1913 . . .	174,604	1,148	387	...	10,113	20	...	...	186,272	
1920 . . .	55,183	...	5	...	3,141	83	...	...	58,412	
1921 . . .	59,936	12	101	...	6,530	70	...	...	66,649	
1922 . . .	83,272	449	373	15	4,016	216	...	...	88,341	
1923 . . .	114,517	406	472	...	7,050	28	...	...	122,473	
1924 . . .	159,134	299	678	...	4,922	5	...	...	165,038	
1925 . . .	205,308	1,037	901	3	1,867	32	149,239	59,909	209,148	
1926 . . .	271,656	80	2,027	69	8,391	33	282,553	503	283,056	

N.B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table F.-1.—Galvanized Sheets (Corrugated and Plain).

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	96,610	47,875	1,485	3,747	12,072	161,789	
1913	124,091	36,897	5,044	4,271	15,969	186,272	
1920	33,517	15,962	1,780	1,700	5,453	58,412	
1921	27,770	25,286	2,835	2,535	8,223	66,649	
1922	35,499	35,506	3,413	3,812	10,111	88,341	
1923	52,833	45,889	6,767	4,267	12,717	122,473	
1924	68,792	71,268	6,973	5,820	12,185	165,038	
1925	102,103	75,373	8,870	7,081	15,721	209,148	
1926	161,822	83,520	9,629	8,355	19,730	283,056	

N.B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table G.—Tinned Sheets.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	20,564	9	...	3	490	2	...	...	21,068	
1913 . . .	39,933	14	2	4	3,140	...	...	...	43,093	
1920 . . .	29,154	...	...	...	12,621	394	...	...	42,169	
1921 . . .	44,897	...	25	4	4,329	677	...	...	49,934	
1922 . . .	24,207	...	...	...	535	5	...	...	24,747	
1923 . . .	38,739	...	...	...	4,006	876	...	...	43,621	
1924 . . .	37,496	...	...	...	6,587	7	...	...	44,090	
1925 . . .	25,892	...	85	...	10,534	18	27,548	8,981	36,529	
1926 . . .	18,096	31	26	16	11,231	358	29,597	161	29,758	

N.B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table G-1.—Tinned Sheets.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	11,248	4,660	672	2,792	1,696	21,068	
1913	24,505	8,409	1,981	2,883	5,315	43,093	
1920	18,340	10,030	4,834	4,016	4,949	42,169	
1921	20,823	11,293	6,219	6,143	5,456	49,934	
1922	11,499	4,842	2,213	1,809	4,377	24,747	
1923	21,108	7,992	3,121	5,417	5,983	43,621	
1924	18,692	10,150	5,132	4,961	5,155	44,090	
1925	14,353	9,588	4,136	5,144	3,308	36,529	
1926	9,473	8,832	5,135	3,730	2,588	29,758	

N.B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table H.—Black Sheets (up to $\frac{1}{8}''$).

Imports into India during the years 1924-25 and 1925-26.

Year ending March 31st.	Imported from						Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.		
1925	9,902	14,159	26,945	1,197	151	383	52,737	Classified from April 1924.
1926	10,214	7,043	23,366	5,723	223	589	46,158	

N. B.—1. This table does not take into account material imported on behalf of Government.

2. See also Table I. The protected and unprotected imports of black sheets and plates are shown together in the Trade Returns and are :—

	1925	1926.
Protected fabricated	79,988	5,879
Protected non-fabricated		77,431
Non-protected	38,080	8,357
	118,068	91,667

Table H-1.—Black Sheets (up to $\frac{1}{8}''$).

Imports into India during the years 1924-25 and 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1925	20,862	19,775	6,325	3,976	1,799	52,737	Classified from April 1924.
1926	16,048	16,583	7,120	3,032	3,375	46,158	

N. B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table I.—Black Plates (over $\frac{1}{8}''$).

Imports into India during the years 1924-25 and 1925-26.

Year ending March 31st.	Imported from						Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.		
1925	42,717	9,864	11,100	258	15	1,377	65,331	Classified from April 1924.
1926	17,373	5,340	19,744	2,588	78	386	45,509	

N. B.—1. This table does not take into account material imported on behalf of Government.

2. See note to Table H.

Table I-1.—Black Plates (over $\frac{1}{8}''$).

Imports into India during the years 1924-25 and 1925-26.

Share of each port.

Year ending 31st March.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1925	16,715	34,651	7,642	2,973	8,350	65,331	Classified from April 1924.
1926	16,918	13,114	7,482	5,314	2,706	45,509	

N. B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table J.—Total of Black Sheets and Plates.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1912 . . .	54,356	29,989	12,358	...	6,138	512	...	...	103,353	
1913 . . .	30,219	32,456	17,388	13	2,360	5	...	...	82,441	
1920 . . .	48,087	103	3,706	...	13,998	204	...	...	66,098	
1921 . . .	67,283	1,710	7,588	1,150	20,478	582	...	...	98,791	
1922 . . .	26,802	14,733	16,010	772	1,907	832	...	...	61,056	
1923 . . .	39,487	23,501	29,505	1,508	254	2,367	...	...	96,622	
1924 . . .	67,835	15,706	22,964	538	266	833	...	...	108,142	
1925 . . .	52,619	24,023	38,045	1,455	166	1,760	79,988	38,080	118,068	
1926 . . .	27,587	12,383	42,110	8,311	301	975	(a) 5,879 (b) 77,431	8,357	91,667	(a) Fabricated. (b) Other.

N. B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table J-1.—Total of Black Sheets and Plates.

Imports into India during the years 1911-12, 1912-13 and 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1912	51,664	23,228	15,296	6,353	6,812	103,353	
1913	45,033	20,243	8,526	6,565	2,074	82,441	
1920	42,380	16,190	3,646	1,566	2,316	66,098	
1921	60,165	22,465	7,658	3,739	4,764	98,791	
1922	32,181	16,944	5,318	4,824	1,789	61,056	
1923	41,898	28,678	14,657	7,791	3,598	96,622	
1924	21,876	68,906	8,553	6,271	2,536	108,142	
1925	37,577	54,426	13,967	6,949	5,149	118,068	
1926	32,961	29,697	14,602	8,326	6,081	91,667	

N.B.—This table does not take into account material imported on behalf of Government.

Appendix I.

Table K.—Wire Nails.

Imports into India during the years 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1920	384	...	63	...	5,966	276	...	...	6,689	
1921	1,935	1,850	2,260	...	2,720	680	...	...	9,445	
1922	301	3,179	3,570	...	70	140	...	...	7,260	
1923	629	6,650	3,912	40	1,378	201	...	...	12,810	
1924	219	4,575	4,710	17	32	1,418	...	...	10,971	
1925	439	7,301	7,379	22	6	1,091	12,449	3,789	16,238	
1926	268	2,575	4,673	24	...	166	7,706	...	7,706	

N.B.—(1) This table does not take into account material imported on behalf of Government.
(2) Not separately classified during the years 1911-12 and 1912-13.

Appendix I.

Table K-1. Wire Nails.

Imports into India during the years 1919-20 to 1925-26.

Share of each port.

Year ending March 31st.	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1920	1,033	1,522	557	818	2,759	6,689	
1921	2,548	1,463	562	1,389	3,483	9,445	
1922	1,378	1,539	1,438	1,242	1,663	7,260	
1923	3,582	1,572	1,044	1,618	4,994	12,810	
1924	2,363	2,290	2,173	2,263	1,882	10,971	
1925	3,736	2,470	1,685	1,589	6,758	16,238	
1926	3,139	1,177	655	1,232	1,502	7,706	

N.B.—1. This table does not take into account material imported on behalf of Government.
2. Not separately classified during the years 1911-12 and 1912-13.

Appendix 1.

Table L. Steel Wire (other than fencing wire).

Imports into India during the years 1919-20 to 1925-26.

Year ending March 31st.	Imported from						Protected.	Not protected.	Total.	Remarks.
	United Kingdom.	Germany.	Belgium.	France.	United States of America.	Other countries.				
1920 . . .	2,339	...	36	...	3,278	122	...	...	5,775	
1921 . . .	2,737	276	609	...	824	162	...	...	4,608	
1922 . . .	559	1,811	659	1	156	115	...	...	3,301	
1923 . . .	1,135	1,447	889	...	257	65	...	...	3,793	
1924 . . .	1,383	2,002	1,588	12	209	371	...	...	5,565	
1925 . . .	1,383	3,458	1,446	15	79	224	4,653	1,935	6,588	
1926 . . .	1,331	1,823	3,169	62	114	103	6,605	...	6,605	

N.B.—1. This table does not take into account material imported on behalf of Government.
2. Not separately classified during the years 1911-12 and 1912-13.

Appendix I.

Table L.-1. Steel Wire (other than fencing wire).

Imports into India during the years 1919-20 to 1925-26.

Year ending March 31st.	Share of each port.						
	Bengal.	Bombay.	Karachi.	Madras.	Rangoon.	Total.	Remarks.
1920	4,021	1,337	244	63	110	5,775	
1921	2,517	1,411	183	138	359	4,608	
1922	1,134	1,666	246	114	141	3,301	
1923	2,115	970	82	192	434	3,793	
1924	2,451	2,098	382	229	405	5,565	
1925	3,084	2,204	527	288	485	6,588	
1926	3,920	1,478	402	330	475	6,605	

N.B.—1. This table does not take into account material imported on behalf of Government.
2. Not separately classified during the years 1911-12 and 1912-13.

Appendix II.

Prices of imported Steel products.

A.—British Beams.

	Iron and Coal Trades Review. f.o.b.	Balmer Lawrie & Co. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co. c.i.f.	Tisco. c.i.f.	Burn & Co. c.i.f.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925						
June	7 17 6	8 10 0	8 7 0	8 9 6	8 15 0	8 10 1
July	7 15 0	8 7 6	8 4 6	8 7 0	8 8 0	8 7 3
August	7 5 0	8 6 6	8 2 4	8 7 0	8 3 0	8 4 2
September	7 3 9	8 5 0	8 2 4	8 2 0	8 1 8	8 1 7
October	6 19 0	8 0 0	7 16 0	7 18 0	7 15 6	7 16 5
November	6 15 0	7 12 6	7 8 8	7 18 0	7 10 3	7 11 3
December	6 11 8	7 10 0	7 8 8	7 7 0	7 8 9	7 6 11
1926						
January	6 10 0	7 10 0	7 8 8	7 7 0	7 8 9	7 6 11
February	6 8 9	7 10 0	7 8 8	7 7 0	7 8 9	7 6 11
March	6 8 9	7 10 0	7 6 3	7 7 0	7 6 3	7 6 11
April	6 4 9	7 10 0	...	7 9 6	7 5 0	7 6 11
May	6 3 9	...	...	7 9 6	7 5 0	7 6 11
June	6 3 9	...	...	7 14 6	7 12 0	...
July	...	...	...	7 14 6	...	...
August	...	...	...	...	...	...

Appendix II.

B.—Continental Beams.

	Iron and Coal Trades Review. f.o.b.	Balmer Lawrie & Co. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co. c.i.f.	Geo. Service & Co. c.i.f.	Tata Iron and Steel Company. c.i.f.	Anandji Haridas & Co. c.i.f.o.	Burn & Co. c.i.f.o.	Anandji Haridas & Co. Calcutta Market price.	Mr. G. B. Trivedi Bombay Market price. c.i.f.	Bombay Iron Merchants Association Bombay Market price.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Rs. a. p.	Rs.	Rs.
1925											
June	5 6 7	6 12 11	6 10 6	6 10 6	6 10 6	6 9 0	6 10 0	6 0 4	120 0 0	...	140
July	5 4 11	6 10 5	6 10 6	6 9 6	6 10 6	6 7 6	6 9 0	6 2 0	120 0 0	...	140
August	5 5 3	6 10 5	6 6 9	6 9 6	6 6 9	6 7 0	6 9 6	6 0 3	120 0 0	...	145
September	5 3 0	6 10 5	6 2 0	6 5 6	6 2 0	6 3 0	6 4 0	5 19 6	120 0 0	...	140
October	4 19 11	6 5 10	6 0 8	6 2 6	6 0 8	6 0 0	6 2 0	6 18 0	120 0 0	...	145
November	4 16 8	6 5 10	5 11 8	5 17 0	5 11 8	5 16 0	5 17 6	5 12 2	120 0 0	...	145
December	4 16 10	5 15 10	5 12 2	5 15 10	5 12 2	5 13 6	5 17 0	5 12 3	100 0 0	...	140
1926											
January	4 17 4	6 0 10	5 17 0	6 0 0	5 17 0	5 16 0	6 0 3	5 13 2	100 0 0	...	145
February	4 18 0	6 0 10	5 17 0	5 19 6	5 17 0	5 16 0	5 19 0	5 13 2	100 0 0	...	125
March	4 16 9	6 0 10	5 18 3	5 18 6	5 18 3	5 15 0	5 17 0	5 11 9	95 0 0	...	120
April	4 15 8	5 18 4	...	5 17 0	5 17 0	5 14 0	5 12 6	5 12 9	100 0 0	...	120
May	4 13 10	...	...	5 17 0	...	5 13 0	5 12 6	5 12 6	107 8 0	...	125
June	4 12 8	...	...	5 14 6	...	5 11 0	5 12 6	...	105 0 0	...	120
July	4 12 5	...	...	5 14 6	...	...	5 12 6	...	105 0 0	...	120
August	4 16 10	...	...	...	...	...	6 1 6	...	107 8 0	...	115
September	...	...	...	...	...	...	6 10 0	...	110 0 0	...	117

Appendix II.

C.—British Angles.

	Balmer Lawrie & Co., Ld. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co., Ltd. c.i.f.	Tata Iron & Steel Co., Ltd. c.i.f.	Burn & Co., Ltd. c.i.f.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925.					
June	8 10 0	8 7 0	8 9 6	8 15 0	8 10 1
July	8 7 6	8 4 6	8 7 0	8 8 0	8 7 3
August	8 7 6	8 2 4	8 7 0	8 5 0	8 4 2
September	8 5 0	8 2 4	8 2 0	8 1 8	8 1 7
October	8 0 0	7 16 0	7 18 0	7 15 6	7 16 5
November	7 12 6	7 8 8	7 18 0	7 10 3	7 11 3
December	7 10 0	7 8 8	7 7 0	7 8 9	7 6 11
1926.					
January	7 10 0	7 8 8	7 7 0	7 8 9	7 6 11
February	7 10 0	7 8 8	7 7 0	7 8 9	7 6 11
March	7 10 0	7 6 3	7 7 0	7 6 3	7 6 11
April	7 10 0	...	7 9 6	7 5 0	7 6 11
May	...	...	7 9 6	7 5 0	7 6 11
June	...	...	7 14 6	7 12 0	...
July	...	...	7 14 6	...	...

Appendix II.

D.—Continental Angles.

	Balmer Lawrie & Co. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co. c.i.f.	Geo. Service & Co. c.i.f.	Tata Iron and Steel Company. c.i.f.	Anandji Haridas & Co. c.i.f.c.	Burn & Co. c.i.f.	Anandji Haridas & Co. Calcutta Market price.	Bombay Iron Merchants Association Bombay Market price.
1925	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Rs. A. P.	Rs.
June	6 15 10	6 15 3	6 14 0	6 15 3	6 13 0	6 12 6	6 6 3	145 0 0	140
July	6 15 10	6 14 0	6 11 6	6 14 0	6 12 0	6 12 6	6 7 10	145 0 0	140
August	6 13 4	6 11 8	6 10 8	6 11 8	6 11 6	6 9 0	6 6 4	135 0 0	150
September	6 10 10	6 7 0	6 6 6	6 7 0	6 7 6	6 5 0	6 4 0	135 0 0	165
October	6 10 10	6 4 4	6 9 6	6 4 4	6 5 0	6 5 0	6 3 2	132 8 0	155
November	6 10 10	5 19 9	6 2 0	5 19 9	6 6 0	6 1 5	5 18 11	132 8 0	145
December	6 3 4	5 19 9	6 3 0	5 19 9	6 1 0	6 2 0	5 19 7	132 8 0	145
1926									
January	6 5 10	6 1 10	6 5 6	6 1 10	6 3 6	6 3 0	6 1 8	130 0 0	140
February	6 3 4	6 1 10	6 6 6	6 1 10	6 3 6	6 6 0	6 0 10	128 7 0	175
March	6 3 4	6 4 4	6 5 0	6 4 4	6 2 0	6 3 9	5 19 8	127 8 0	131
April	6 3 4	...	6 0 0	6 4 4	6 1 6	5 16 6	5 19 9	123 8 0	135
May	...	...	5 19 0	...	5 17 0	5 16 6	5 19 6	127 8 0	125
June	...	...	5 14 6	...	5 14 0	5 16 0	...	126 6 0	130
July	...	...	5 14 6	...	...	5 12 6	...	126 4 0	125
August	...	...	...	...	...	6 1 6	...	123 12 0	120
September	...	...	...	...	...	6 10 0	...	125 0 0	120

Appendix II.

E.—British Bars.

—	Iron and Coal Trades Review. f.o.b.	Balmer Lawrie & Co., Ltd. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co., Ltd. c.i.f.	Tata Iron & Steel Co., Ltd c.i.f.
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1925.					
June	8 5 0	9 5 0	8 19 0	8 9 6	9 13 0
July	8 5 0	9 0 0	8 16 8	8 7 0	9 9 0
August	8 5 0	8 17 6	8 14 3	8 7 0	9 9 0
September	7 10 4	8 12 6	8 14 3	8 2 0	9 8 0
October	7 15 0	8 12 6	8 8 3	7 18 0	9 5 0
November	7 5 0	8 12 6	8 0 9	7 18 0	9 2 6
December	7 5 0	8 12 6	8 0 9	7 7 0	8 12 6
1926.					
January	7 5 0	8 12 6	8 0 10	7 7 0	8 7 6
February	7 5 0	8 12 6	8 0 10	7 7 0	8 7 6
March	7 5 0	8 12 6	7 18 6	7 7 0	8 7 6
April	7 5 0	8 15 0	...	7 9 6	8 7 6
May	7 5 0	...	...	7 9 6	8 7 6
June	7 5 0	...	...	7 14 6	8 12 0
July	...	...	...	7 14 6	...
August	...	..	...	...	...

Appendix II.

F.—Continental Bars.

—	Iron and Coal Trades Review. f.o.b.	Balmer Lawrie & Co. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co. c.i.f.	Geo. Service & Co. c.i.f.	Tata Iron and Steel Company. c.i.f.	Anandji Haridas & Co. c.i.f.c.	Burn & Co. c.i.f.	Anandji Haridas & Co. Calcutta Market price.	Bombay Iron Merchants Association Bombay Market price.
1925.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Rs. A. P.	Rs.
June	5 12 0	6 15 10	6 15 3	6 13 0	6 15 3	6 13 0	6 12 6	6 6 3	135 0 0	140
July	5 8 8	6 15 10	6 14 0	6 11 6	6 14 0	6 12 0	6 12 6	6 7 10	135 0 0	145
August	5 8 6	6 13 4	6 11 8	6 10 6	6 11 8	6 11 6	6 8 4	6 6 2	135 0 0	140
September	5 6 7	6 10 10	6 7 0	6 6 6	6 7 0	6 7 6	6 5 0	6 4 0	135 0 0	135
October	5 5 8	6 10 10	6 4 4	6 9 6	6 4 4	6 5 0	6 4 6	6 3 2	140 0 0	150
November	5 4 1	6 10 10	5 19 8	6 2 0	5 19 6	6 6 0	6 1 2	5 19 2	140 0 0	140
December	5 4 7	6 3 4	5 19 6	6 2 6	5 19 6	6 1 0	6 2 6	6 0 1	137 8 0	145
1926.										
January	5 6 1	6 5 10	6 1 10	6 6 0	6 1 10	6 3 6	6 2 6	6 1 8	137 8 0	155
February	5 3 4	6 8 4	6 1 10	6 6 6	6 1 10	6 3 6	6 5 0	6 0 10	137 8 0	140
March	5 5 2	6 8 4	6 4 4	6 4 6	6 4 4	6 2 0	6 3 3	5 19 8	132 8 0	145
April	5 1 11	6 3 4	...	6 0 0	6 4 4	6 1 0	5 16 6	5 19 9	125 0 0	150
May	4 19 6	...	...	5 18 6	...	5 17 0	5 16 6	5 19 6	130 0 0	135
June	4 15 6	...	...	5 14 6	...	5 14 0	5 16 6	..	130 0 0	135
July	4 14 0	...	...	5 14 6	...	...	5 12 6	...	130 0 0	135
August	4 16 10	...	...	...	...	...	6 1 6	...	127 8 0	125
September	...	...	...	...	...	...	6 10 0	...	132 8 0	135

Appendix II.

G.—British Plates.

	Iron and Coal Trades Review. f.o.b.	Balmer Lawrie & Co. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co. c.i.f.	Tata Iron and Steel Company.* c.i.f.	Burn & Co. c.i.f.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925.						
June . .	8 11 3	9 13 4	9 7 2	9 15 0	9 10 6	9 11 6
July . .	8 9 9	9 8 4	9 4 9	9 10 0	9 10 6	9 0 0
August . .	8 1 3	9 5 10	9 2 0	9 7 6	9 4 0	9 5 9
September . .	8 0 7	9 13 4	9 2 0	9 5 0	9 4 0	9 0 9
October . .	7 13 6	8 18 4	8 13 2	8 15 0	9 1 6	8 17 0
November . .	7 7 6	8 10 10	8 8 2	8 10 0	8 10 0	8 9 6
December . .	7 2 6	8 5 10	8 3 4	8 10 0	8 2 6	8 1 11
1926.						
January .	7 0 0	8 5 10	8 3 4	8 10 0	8 2 6	8 1 11
Februa.y . .	7 0 0	8 5 10	8 3 4	8 5 0	8 2 6	8 1 11
March . .	7 0 0	8 5 10	8 0 10	8 5 0	8 2 6	8 1 11
April . .	7 0 0	8 5 10	...	8 5 0	8 2 6	8 1 11
May . .	7 0 0	...	...	8 5 0	8 2 6	8 1 11
June . .	7 0 0	...	...	8 5 0	8 7 6	...
July . .	...	. .	...	8 5 0	...	...
August . .	...	...	...	...	...	...

* ½" and up.

Appendix II.

H.—CONTINENTAL PLATES.

—	Iron and Coal Trades Review.	Balmer Lawrie & Co.	Richardson & Cruddas.	Jessop & Co.	Geo. Service & Co.	Tata Iron and Steel Company.*	Anandji Haridas & Co.		Burn & Co.	Anandji Haridas & Co. Calcutta Market price.		Bombay Iron Merchants Association Bombay Market price.
	f.o.b.	c.i.f.	c.i.f.	c.i.f.	c.i.f.	c.i.f.	c.i.f.c. ½"	5/16" & up.	c.i.f.	½"	5/16" & up	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Rs. A. P.	Rs. A. P.	Rs.
1925.												
June	6 14 9	7 18 4	7 19 8	7 15 0	7 19 8	7 17 0	8 5 0	7 15 0	7 15 4	145 0 0	142 8 0	160
July	6 9 11	7 15 10	7 18 6	7 12 6	7 18 6	7 17 0	8 2 6	7 12 6	7 17 2	147 8 0	142 8 0	160
August	6 8 6	7 13 4	7 12 4	7 10 6	7 12 4	7 11 0	8 0 0	7 7 6	7 17 2	142 8 0	142 8 0	160
September	6 7 0	7 13 4	7 7 9	7 8 6	7 7 9	7 4 0	7 12 6	7 2 6	7 14 2	145 0 0	142 8 0	150
October	6 1 0	7 5 10	7 1 4	7 1 6	7 1 4	7 0 0	7 10 0	7 1 3	7 9 8	155 0 0	137 8 0	150
November	5 14 7	7 5 10	6 11 8	6 11 0	6 11 8	6 17 0	7 2 0	6 14 6	7 2 5	145 0 0	137 8 0	150
December	6 10 5	6 10 10	6 6 9	6 7 6	6 6 9	6 7 0	6 16 0	6 5 6	6 12 0	137 8 0	137 8 0	175
1926.												
January	5 8 1	6 10 10	6 6 9	6 10 0	6 6 9	6 8 0	6 17 9	6 5 0	6 14 3	135 10 0	127 8 0	150
February	5 10 0	6 10 10	6 6 9	6 10 0	6 6 9	6 8 0	6 19 0	6 5 0	6 13 8	125 0 0	120 0 0	140
March	5 9 0	6 10 10	6 6 9	6 8 6	6 6 9	6 6 0	6 17 9	6 5 0	6 11 9	112 8 0	120 0 0	135
April	5 6 11	6 8 4	...	6 5 6	6 6 9	6 6 0	6 13 0	6 5 0	6 14 7	110 0 0	110 0 0	140
May	5 5 0	..	...	6 3 6	...	6 2 0	6 13 0	6 5 0	6 14 7	112 8 0	110 0 0	140
June	5 9 2	...	...	6 1 6	...	6 0 0	6 13 0	6 5 0	...	107 8 0	104 8 0	130
July	5 8 5	...	...	6 1 6	...	...	6 9 0	6 0 0	...	107 8 0	107 8 0	130
August	5 10 7		.	...	...	...	6 15 0	6 10 0	...	112 8 0	110 0 0	125
September	...	...	...	...	...	...	7 15 0	6 15 0	...	117 8 0	115 0 0	135

* 5/16" and thicker.

Appendix II.

I.—British Black Sheet.

—	Iron and Coal Trades Review f.o.b.	Jessop & Co., Ltd. c.i.f.	Tata Iron & Steel Co., Ltd. c.i.f.	Burn & Co., Ltd.* c.i.f.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1925				
June	11 7 6	...	12 12 6	11 8 6
July	10 19 0	...	12 5 0	11 7 3
August	10 10 0	...	11 12 6	11 7 3
September	10 8 9	...	11 12 6	11 7 3
October	10 5 0	11 5 4	11 7 6	11 7 3
November	10 5 0	...	11 7 6	11 3 5
December	10 0 10	...	11 5 0	10 12 2
1926				
January	9 12 6	...	10 12 0	10 9 6
February	9 12 6	...	10 12 0	10 7 2
March	9 11 3	...	10 10 0	10 7 2
April	9 8 6	...	10 8 0	10 7 2
May	9 8 3	...	10 8 0	10 7 2
June	9 10 0	...	10 8 0	...
July	...	...	...	...
August	...	...	...	...

*$\frac{1}{8}$" thick.

Appendix II.

J.—Continental Black Sheet.

	Jessop & Co., Ltd. c.i.f.	Tata Iron & Steel Co., Ltd. c.i.f.	Anandji Haridas & Co. c.i.f.c.	Burn & Co.* c.i.f.	Anandji Haridas & Co., Calcutta Market price.	Bombay Iron Merchants Association Bombay Market price.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Rs. A. P.	Rs. A. P.
1925						
June	...	11 6 0	11 5 0	8 0 10	165 0 0	190 0 0
July	...	11 5 0	11 0 0	7 19 8	167 8 0	170 0 0
August	...	11 5 0	11 3 9	7 15 0	165 0 0	170 0 0
September	...	11 2 0	11 2 6	7 12 8	167 8 0	170 0 0
October	...	10 16 0	10 18 9	7 9 9	167 8 0	170 0 0
November	10 15 0	10 8 0	10 3 6	7 4 0	165 0 0	165 0 0
December	10 6 8	9 19 0	10 0 0	6 16 4	157 8 0	160 0 0
1926						
January	...	10 0 0	10 0 0	6 16 3	155 0 0	152 0 0
February	9 13 5	10 0 0	10 0 0	6 15 3	157 8 0	160 0 0
March	...	9 15 0	9 12 6	6 14 8	157 8 0	155 0 0
April	...	9 12 0	9 0 0	6 14 8	150 0 0	155 0 0
May	...	9 10 0	9 0 0	6 14 1	155 0 0	152 0 0
June	...	9 4 0	9 0 0	...	155 0 0	150 0 0
July	...	...	8 3 6	...	157 8 0	150 0 0
August	...	...	8 5 0†	...	165 0 0	140 0 0
September	...	...	9 16 8	...	165 0 0	135 0 0

* ⅛″ thick.
† 14 to 18 gauge.

Appendix II.

K.—British Galvanized Sheets.

—	Iron and Coal Trades Review. f.o.b.	Palmer Lawrie & Co., Ld. c.i.f.	Richardson & Cruddas. c.i.f.	Jessop & Co., Ltd. c.i.f.	Tata Iron and Steel Company.* c.i.f.	Anandji Haridas & Co. c.i.f.c.	Burn & Co.† c.i.f.c.	Anandji Haridas & Co. Calcutta Market price.	Bombay Iron Merchants Association Bombay Market price.
1925	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	Rs. A. P.	Rs.
June	16 5 0	17 12 6	17 1 3	17 2 6	17 7 0	17 2 6	17 12 6	295 0 0	335
July	16 0 0	17 10 0	16 17 6	17 2 6	17 3 0	17 2 6	17 12 8	293 8 0	280
Augus	16 0 0	17 12 6	17 7 6	17 2 6	17 3 0	17 6 3	17 8 6	295 0 0	272
September	16 5 0	17 17 6	17 7 0	17 17 6	17 9 0	17 12 6	17 10 7	297 8 0	260
October	16 7 0	18 0 0	17 6 0	17 17 6	17 12 0	17 12 6	17 15 6	323 8 0	285
November	16 10 0	18 0 0	17 8 0	17 17 6	17 12 0	17 17 6	18 0 0	320 0 0	280
December	16 15 0	18 0 0	17 8 0	17 12 6	17 16 0	17 16 3	17 19 6	300 0 0	295
1926									
January	16 15 0	18 0 0	17 3 8	17 12 6	17 15 0	17 12 6	17 17 6	295 0 0	292
February	16 5 7	17 12 6	16 16 4	17 7 6	17 7 0	17 5 7	17 9 11	295 0 0	290
March	16 0 7	17 12 6	16 14 0	17 7 6	17 5 0	16 18 9	17 7 5	292 8 0	290
April	15 14 0	17 0 0	...	16 12 6	17 0 0	17 0 0	17 4 5	280 0 0	295
May	15 11 3	...	...	16 13 6	17 15 0	17 2 6	16 12 8	285 0 0	290
June	15 18 4	...	...	16 13 6	17 15 0	17 13 6	...	287 8 0	307
July	...	...	...	17 2 6	...	17 12 6	...	287 8 0	280
August	...	...	...	...	...	17 7 6	...	285 0 0	260
September	...	...	...	...	...	17 10 0	...	290 0 0	280

* 24 G.

† 22×24 G.

Appendix III.

List of firms who submitted representations to the Tariff Board asking for protection, in one form or other, for steel products.

No.	Product proposed to be protected.	Names of firms applying for protection.	Dates of written representation.	Dates of oral examination.
1	Rolled Steel and Agricultural Implements.	The Tata Iron and Steel Company, Ltd.	7th May, 1926	14th, 15th, 16th, 18th, 22nd, 23rd, 24th, 25th June, 9th, 10th, 11th, 13th, 14th August and 20th, 25th, 27th, 28th September, 1926.
2	Steel Castings and Spring Steel.	Hukumchand Electric Steel Works	19th April, 1926	17th, 18th and 19th May, 1926.
3	Wagon Forgings	Angus Engineering Works	11th June, 1926	14th July, 1926.
4	Tinplate	The Tinplate Company of India, Ltd.	5th May, 1926	21st June and 7th, 8th July, 1926.
5	Railway Wagons	The Peninsular Locomotive Company, Ltd.	15th May, 1926	16th August, 1926.
		The Indian Standard Wagon Company, Ltd.	18th May, 1926	20th and 21st July, 1926.
		Burn and Company, Ltd.		
		Jessop and Company, Ltd.	11th, 14th May, 1926	23rd July, 1926.
6	Tipping Wagons	Parry's Engineering, Ltd.	14th May, 1926	
7	Railway Locomotives	The Peninsular Locomotive Company, Ltd.	30th April, 1926	16th August, 1926.
8	Wire and Wire Nails	The Indian Steel Wire Products, Ltd.	11th August, 1926	
		Pioneer Wire Nail Manufacturing Company	16th August, 1926	
9	Bolts and Nuts	Kirloskar Brothers, Ltd.	12th May, 1926	

Appendix IV.

List of Engineering Associations and firms and of firms interested in the manufacture of iron and steel who submitted representations to the Tariff Board.

No.	Names of firms.	Date of representation or replies to questionnaire.	Date on which representative was examined orally.
1	Burn and Company, Ltd.	18th May, 1926	20th and 21st July, 1926.
2	Jessop and Company, Ltd.	11th/14th May, 1926	23rd July, 1926.
3	The Indian Iron and Steel Company, Ltd.	14th May, 1926	30th July, 1926.
4	Bird and Company	15th May, 1926	5th August, 1926.
5	Indian Engineering Association	12th June, 1926	
6	Richardson and Cruddas	3rd May, 1926	

Appendix V.

List of Railways from which replies were received to the questionnaires issued by the Board.

No.	Names of Railways.	Date or dates of replies.	Date on which representatives were examined orally.
1	North Western Railway . .	23rd June, 29th June, 22nd July, 26th July and 4th August, 1926.	
2	Great Indian Peninsula Railway .	15th June, 17th June, 24th June and 16th July, 1926.	
3	East Indian Railway . .	8th June, 21st June, 17th July, 19th July and 2nd August, 1926.	
4	Eastern Bengal Railway . .	19th June, 21st June, 30th June and 11th September, 1926.	
5	Bengal Nagpur Railway Company, Ltd.	14th June, 2nd July, 9th July, 28th September and 8th October, 1926.	
6	Bombay, Baroda and Central India Railway Company, Ltd.	11th June, 1st July, 8th July, 9th July and 17th July, 1926.	
7	Madras and Southern Mahratta Railway Company, Ltd.	14th June, 16th June, 19th June and 28th June, 1926.	
8	South Indian Railway Company, Ltd.	22nd June, 26th June, 28th June and 8th October, 1926.	
9	Burma Railways Company . .	12th July, 1926.	
10	Assam Bengal Railway Company, Ltd.	3rd June, 26th June, 14th July and 16th July, 1926.	
11	Bengal and North-Western Railway Company, Ltd.	17th July, 1926.	
12	Railway Board . . .	21st May, 8th June and 7th July, 1926.	26th, 27th and 28th July, 1926.
13	H. E. H. The Nizam's Guaranteed State Railways Company, Ltd.	14th September, 1926.	
14	Rohilkund and Kumaon Railway Company, Ltd.	23rd October, 1926.	

Appendix VI.

List of Chambers of Commerce and other commercial bodies, importing firms and private individuals from whom representations were received on the general question of protection for steel.

No.	Name of Chamber, Association, etc.	Date of representation.	Date on which representative was examined orally.
1	Messrs. Richardson and Cruddas .	3rd May, 1926 .	...
2	„ Geo. Service and Company	12th May, 1926 .	...
3	Chamber of Commerce, Madras .	8th May, 1926 .	...
4	Burma Chamber of Commerce .	5th May, 1926 .	...
5	Indian Chamber of Commerce, Calcutta.	1st June, 1926, and 2nd August, 1926.	...
6	Southern India Chamber of Commerce, Madras.	5th July, 1926 .	...
7	Burma Indian Chamber of Commerce.	12th July, 1926 .	...
8	Bombay Iron Merchants' Association.	22nd July, 1926 .	...
9	Some Iron Merchants of Calcutta .	11th August, 1926	...
10	Mr. R. Sitaraman, Calcutta . .	20th July, 1926 .	...
11	Mr. G. B. Trivedi, Bombay . .	21st July, 1926 .	18th August, 1926.
12	Messrs. Anandji Haridas and Company.	20th May, 1926 .	2nd August, 1926.

Appendix VII.

List of Engineering and other firms whose works were visited by the Board.

No.	Name of firm.	Works visited.	Date of visit.
1	The Tata Iron and Steel Company, Ltd.	Works at Jamshedpur.	19th and 20th April, 10th and 11th August, 18th September, 1926.
2	Peninsular Locomotive Company, Ltd.	Ditto . .	21st April, 1926.
3	Indian Cable Company, Ltd. .	Ditto . .	Ditto.
4	The Agricultural Implements Company.	Ditto . .	22nd April, 1926.
5	Indian Steel Wire Products, Ltd. .	Ditto . .	Ditto.
6	The Tinplate Company of India, Ltd.	Works at Golmuri near Jamshedpur.	23rd April and 10th August, 1926.
7	Messrs. Burn and Company, Ltd. .	Works at Howrah	26th April and 25th August, 1926.
8	Messrs. Jessop and Company, Ltd. .	Works at Howrah and Garden Reach.	27th April, 1926.
9	Hukumchand Electric Steel Works	Works at Ballygunge near Calcutta.	28th April, 1926.
10	Angus Engineering Works . .	Works at Bhadrashwar.	12th July, 1926.
11	Indian Standard Wagon Company, Ltd.	Works at Burnpur near Asansol.	17th July, 1926.
12	Indian Iron and Steel Company, Ltd.	Ditto . .	Ditto

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